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**MDes Final Visual Presentation**

by

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## Abstract

The title of this thesis, *Ideologies Manifested in the Typographic Methodologies of Josef Müller-Brockmann and Jan Tschichold*, indicates that the study's focal concern is the ideological condition surrounding the formulation of typography. The motivation for this study is the initiation of an awareness that typography is an activity which encompasses more than merely a mechanical process.

Fundamental to this study is the examination of the medieval concept of *manifestatio*. This examination is of importance in that it reveals that the historical development of rigorous formal activity involved ideological motivations. Specifically, it shows how 'the means of clarification' and 'what was being clarified' (an intrinsic relationship of *manifestatio*) informed the conditions of aesthetic formal activities. This relationship is seen as being intrinsic in the development of an ideological framework for the production of form.

The study is concerned not so much with how typographic form is executed but more so with why typographies are formulated. With this interest in mind, the typographic methodologies of Jan Tschichold and Josef Müller-Brockmann will be selected as illustrations of the presence of ideological motivations. Their writings on typography and other scholars' writings about them will become salient texts of this study. In the readings which will involve analyses of those texts, efforts will be made to disclose ideological purpose implied in the texts. Furthermore, how the two typographical methodologies illustrate the presence, albeit in transformed states, of the concept of *manifestatio* will be examined.

As stated, this thesis will examine how formal considerations indicate the presence of ideological activity. In particular, the parameters governing geometric compositions will be examined since such compositions shall be found to be constituted within an ideological manifestation. These parameters will be chosen because of the direct linkage found between their development and the concept of *manifestatio*.

The study of the geometric compositions of Tschichold's and Müller-Brockmann's typographical methodologies will reveal an interest in reforming typography from the



degenerative influences of the nineteenth century. It will be found that Tschichold and Mueller-Brockmann differ in their advocacy of reform. Tschichold desired to promote the maintenance of conventions and traditions, whereas Mueller-Brockmann desired to promote dynamic innovation. Therein they differed in formal and ideological interests. In Tschichold's methodology, the ideal of human dignity was maintained; in Mueller-Brockmann's methodology, the ideal of human dignity was manifested in a methodology given to active construction. Thus the presence of ideological motivations will be found in their manifestation of *manifestatio*'s a relationship of 'the means of clarification' (geometric composition) and 'what is being clarified' (their ideological interests).

It is hoped that this study, though limited in scope, provides groundwork for a deeper understanding of typography that moves beyond stylistic differences by extending the examination to include ideological manifestation.



## Introduction

Typography is an area of design which deals primarily with the positioning of letter forms in a two dimensional format. As a vast amount of written information is transmitted and engaged in typographical form (books, magazines, newspapers, posters), it is an activity which has social significance. However, definitions of typography, on the whole, ignore or neglect to indicate this significance and, instead, have a tendency to concentrate on the mechanical process of printing. Examples of such mechanically inclined definitions may be seen in the following:

**Typography.** The art and technique of printing from raised alphabet characters cast on metal blocks; now used for other processes, such as photocomposition.<sup>1</sup>

**Typography** Arrangement and specification of type in preparation for printing. Traditionally associated with printing from metal type (LETTERPRESS), now equally applied to typesetting produced by any type composition system.<sup>2</sup>

Such definitions reduce the consideration of typography to that of a mechanical process. In this perspective differences and changes in typographical layouts are thought of as being merely of esoteric interest. Jeremy Aynsley, in his essay *Graphic Design*, provides a critique of this narrow perspective of design activities, as represented by J. Mueller-Brockmann's *A History of Visual Communications* and Philip Megg's *A History of Graphic Design*:

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<sup>1</sup> Philip B. Meggs, *The History of Graphic Design* (Toronto: Van Nostrand Reinhold, 1983), p. 469.

<sup>2</sup> Alan and Isabella Livingston, *The Thames and Hudson Encyclopaedia of Graphic Design + Designers* (London: Thames and Hudson, 1992), p. 196.



The limitations of such books, which are ambitious in scope, is that they produce a sequence of stylistic and technical change, linking designed objects. An assumption underlying this kind of history is that design has an autonomy. This encourages the view that designers only refer to previous design, whereas the real environment and public for design is in nearly all cases much broader than this.<sup>3</sup>

As Aynsley indicates, design is an activity which occurs within a social arena and which therefore has potential social consequences. Typography is exemplary. As Aynsley states:

If we take communication as the characteristic of graphic design, then we should be aware that it is a social rather than a technical category. . . . Remaining at this very broad level, we can also say that graphic design is a *medium* for transferring an object or an idea. . . . [I]t is often the material substance by which we reach ideas . For example, a book is important for the ideas assembled in its argument or narrative. We can be persuaded to like the ideas more because of their appearance and organization on the page, and in this way the designer, typographer, printer and publisher affect our understanding, but at some stage we dissociate a book's *form* from its *meaning*. It is this characteristic which makes graphic design so ambiguous in its status, but also so interesting. It is what distinguishes the design of a timetable, which I would place firmly within graphic design, and the design of wallpaper.<sup>4</sup>

Aynsley's description of typography indicates the general direction in which this will move. However, the thrust of the thesis will be less on typography as such, but on the ideological purpose which informs the activity of typography. In general terms, ideological purpose is the conceptual motivation that exists in the typographer's decision(s) to use a

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<sup>3</sup> Jeremy Aynsley, "Graphic Design," in *Design History*, ed. Hazel Conway (New York: Routledge, 1987), p. 137.

<sup>4</sup> Ibid., pp. 136 & 137, emphasis in original.



particular method. As opposed to being concerned about the understanding of **how** to execute a certain typographical form, this thesis will seek to understand **why** a certain typography was formulated. Essentially, it will attempt to understand the conceptual motivations of typographers in their activity of ordering visual communication information and the manner in which these motivations manifest themselves in visual form.

The thesis will observe typographies that were active during the mid-20th century, illustrative of different approaches to typographical methods. The first is that of **Jan Tschichold** (German, 1902-74), who was - after World War II - an exponent of a typography which was based on traditional methods dating back to the Renaissance. The other is that of **Josef Müller-Brockmann** (Swiss, b. 1914) who advocated an innovative typographical method known as the *International Typographic Style* - a rational typographic method based upon ideas which had emerged during the early 20th century through the development of movements such as Constructivism, de Stijl, the Bauhaus and the New Typography of the 1930's.

There are three basic reasons why these two typographical methodologies have been selected. The first is because they concretized the conceptual intentions of their methodologies. The second, as illustrated by plates 1 and 2 (pages 5 and 6), is because their methodologies produced different visual manifestations of typography. The third and main reason is that these two typographical methodologies serve this thesis admirably in that they were practiced by typographers who felt a responsibility to the formal integrity of their typographies. However, as can be seen in the following two quotations, the nature of this responsibility as envisioned by the theorists differ greatly:

**Jan Tschichold:** "Since typography appertains to each and all, it leaves no room for revolutionary changes. We cannot alter the essential shape of a



single letter without at the same time destroying the familiar printed face of our language, and thereby rendering it useless."<sup>5</sup>

**Josef Mueller-Brockmann:** "Constructive design which is capable of analysis and reproduction can influence and enhance the taste of a society and the way it conceives forms and colours. Design which is objective, committed to the common weal, well composed and refined constitutes the basis of democratic behaviour. Constructivist design means the conversion of design laws into practical solutions. Work done systematically and in accordance with strict formal principles makes those demands for directness, intelligibility and the integration of all factors which are also vital in sociopolitical life."<sup>6</sup>

As stated, the intent of this thesis is the study of the reasons why a certain typography was formulated. Tschichold's and Mueller-Brockmann's methodologies represent typographical techniques of the mid-20th century. Being so, this thesis does not focus its attention on how recent technological developments (computers and word-processors) have affected typographic methods. Instead, the emphasis is upon the examination of how particular conceptual activities are involved in the creation of typographical methodologies.

The objective of this thesis is to disclose the presence of ideological purpose underlying typographical methodologies. Through such examination, it will attempt to gain a greater understanding of the ideological consequences of the visual form of typography - an understanding that may allow us to become more aware of the ideological implications present in the construction of visual forms.

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<sup>5</sup> Jan Tschichold, *The Form of the Book: Essays on the Morality of Good Design*, trans. Hajo Hadeler, (Vancouver: Hartley & Marks, 1991), p. 4.

<sup>6</sup> Josef Mueller-Brockmann, *Grid Systems in Graphic Design*, trans. D. Q. Stephenson (Teufen, Switzerland: Arthur Niggli), 1981, p. 10.



ERASMUS VON ROTTERDAM

DAS LOB DER  
TORHEIT

Übersetzt von Alfred Hartmann

Mit den Holbeinischen Randzeichnungen  
herausgegeben von Emil Major



M.CM.XL.IV

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VERLAG BIRKHÄUSER  
BASEL



musica viva  
 hans rosbaud  
 anton fietz  
 marcel mihalovici  
 igor strawinsky  
 roberto gerhard

freitag, den 5. januar 1952  
 20.15 Uhr  
 zweites musica viva-konzert  
 der  
 konzertgesellschaft zürich  
 grosser tonhalleseal

leitung: hans rosbaud  
 solist:  
 anton fietz, violine  
 marcel mihalovici  
 skvorc verlata  
 igor strawinsky:  
 violoncello  
 roberto gerhard:  
 musik für orchester und  
 lautsprecher

leistung: hans rosbaud  
 solist:  
 anton fietz, violine  
 marcel mihalovici  
 skvorc verlata  
 igor strawinsky:  
 violoncello  
 roberto gerhard:  
 musik für orchester und  
 lautsprecher

klarten von 1 bis 4 franken  
 konzertkasse  
 heinrichkuoni  
 gesellschaftshausbuchhandlung  
 depositenkasse oerlikon  
 kreditanstalt





## Chapter 1

### **The Typographical Methods of Josef Mueller-Brockmann and Jan Tschichold.**

As stated in the introduction, the typographical methodologies of Joseph Mueller-Brockmann and Jan Tschichold are used as illustrations of the presence of ideological purpose within the activity of typography. This chapter describes these two typographical methods with an emphasis on the ideological motivations undergirding them. In order to do so, it may be useful to begin by considering the state of typography in the 19th century. The 19th century was an era in which the means and methods of typography were transformed by the explosive effects of the Industrial Revolution. These effects are summarized by Meggs:

Over the course of the nineteenth century, the specialization of the factory system fractured graphic communication into separate design and production components. The nature of visual information was profoundly changed. The range of typographic sizes and styles of letterforms exploded. The invention of photography - and later, the means to print photographic images - expanded the meaning of visual documentation and pictorial information. Color lithography put sensual and colorful printing into every home in a democratic revolution that enabled the aesthetic experience of colorful images to pass from the privileged few to the whole society. This dynamic, exuberant, and often chaotic century witnessed a staggering parade of new technologies, imaginative forms, and expanded applications of graphic design.<sup>9</sup>

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<sup>9</sup> Philip B. Meggs, *The History of Graphic Design* (Toronto: Van Nostrand Reinhold, 1983), p. 156.



Although Tschichold and Mueller-Brockmann benefited from and acknowledged the technical advances made in the 19th century, their opinions of the general development and quality of 19th century typography were, unlike that of Meggs, decidedly negative. Tschichold was particularly critical:

When typography hit bottom near the end of the nineteenth century, all manner of styles were copied naively in their obvious outward appearance, like initials and vignettes. Yet no one thought about page proportions. Painters attempted to free the shoddy typography from atrophied rules, and in doing so, they objected to everything that might infringe upon the newly declared artistic freedom. Subsequently they had small or no regard for exact proportions. . . . If a beautiful book appeared now and again, it was because an exceptional person had cared enough to look at masterful works of the past, had abstracted a few rules, had developed a *feel* for good proportions between page size and text block position. Unfortunately, such an indefinable *feel* is neither a reliable rule, nor can it be taught.<sup>10</sup>

Mueller-Brockmann also was critical of 19th century typography. Although he extolled the technical innovations of the 19th century, he criticized what he saw as the poor quality of its typography:

The continued development of industry and advertising in the 19th century led to the design of new and more effective typefaces with bold versions. . . . This trend received additional impetus from the discovery of lithography (Senefelder, 1796/97 in Munich). It was possible for the first time to reproduce the very finest lines with the new technique. The type designers immediately availed themselves of this opportunity and the result was hundreds of new founts, including many display faces. Their value was often dubious and the period that followed was characterized by a chaos of good and bad faces. The typographical quality of printed works was obviously

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<sup>10</sup> Jan Tschichold, *The Form of the Book: Essays on the Morality of Good Design* (Vancouver: Hartley & Marks, 1991), pp. 58 and 60.



suffering as a result of the generally prevailing desire to experiment; posters, programmes and forms displayed exuberant ornamentation and featured attempts at shaded and lined faces.<sup>11</sup>

For Tschichold and Mueller-Brockmann the domination of poor quality in 19th century typography extended into the early 20th century. To Mueller-Brockmann, it appeared that the explosive pace in which the development of new technical means occurred during the Industrial Revolution was not matched by typographical ability. In addition to this, it seemed to him that the poor level of quality was linked to the lack of widespread availability of these technical advances.

The newspaper advertisement now loomed large side by side with the poster. As early as the preceding century German entrepreneurs had opened advertisement agencies to place advertisements for their clients and to see to the technical aspects of the work. . . . However, at the turn of the century, most of the newspapers and magazines were poorly furnished with type founts and printed by compositors of little skill. The result was that a well turned out advertisement was a rarity. Men like Emil Preetorius and Fritz Helmut Ehmcke did their best in both theory and practice to remedy the sorry state of affairs in typography but without any enduring success.<sup>12</sup>

Both men saw in the practice of 19th century typography a level of quality which should not be continued. This was a motivation in the development of their typographical methodologies. For Mueller-Brockmann, the remedy for this 'sorry state of affairs in typography' occurred in the early part of the 20th century. Although he recognized the contributions of exceptional individuals prior to this time period, Mueller-Brockmann emphasized the collective work which occurred during the 1920's and 30's. Of particular

<sup>11</sup> Josef Mueller-Brockmann, *A History of Visual Communication*, trans. D. Q. Stephenson (Teufen, Switzerland: Arthur Niggli, 1971), p. 58.

<sup>12</sup> Ibid. p. 160.



interest were the designers who were influenced by Futurism, Dadaism, Russian Constructivism and de Stijl, Karel Teige, Ladislav Sutnar, Piet Zwart, Paul Schuitema, Kurt Schwitters, Jan Tschichold, Johannis Canis, Max Burchartz, Walter Dexel, Hermann Elias, John Heartfield, Hans Richter, Cesar Domela-Nieuwenhuis, Heinz and Bodo Rasch, Willi Baumeister, Otto Baumberger, Walter Cyliax, Alfred Willimann, Herbert Matter, Max Bill and Anton Stankowski. Two essential things attracted Mueller-Brockmann to these pioneer designers: their attention to the rational deployment of type in the creation of typographical form, and their ability to effectively utilize in an innovative manner the new technical processes - in particular, photography. As Mueller-Brockmann stated:

Their designs reflected a new and objective attitude to the problems to be solved. For them photography was a medium for reproducing the environment in a realistic fashion. As a means of visual communication photography was to convey to the reader a terse and pointed message. The same held good of typography: it was to be logical and appropriate; printed matter should be crisp and easily legible. The way the copy was set should not do violence to the nature of the type material.<sup>13</sup>

In plates 3 to 5 (pages 12 - 14) one can clearly see how the new typographies that Mueller-Brockmann referred to differed from those of the 19th century. Particularly evident is the heightened visual play. The advent of the possibility of printing photographs played a critical role in this change. With the inclusion of photographic images typographers became interested in the presentation of independent visual images which supplemented linguistic information.

The awareness that visual imagery had the capability to be independently informative was present in the typographical methodology of Mueller-Brockmann. Although he used photography, he also extended his interest into typography composed entirely of type.

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<sup>13</sup> Ibid. p.222.



The manipulation of typographical procedures in order to create a product which emphasized the visual aspect of type was one of the objectives of his methodology. In the following quotation, Mueller-Brockmann describes how one can use ‘leading’ (a technical term describing the size of the horizontal space between each of the printed lines) as a means of imparting a visual meaning:

In the case of short texts in press notices, advertisements, etc. the leading is usually decided on aesthetic grounds. In a book of verse leading contributes to the psychological effect and is of particular importance. The typographic presentation of a poem must create tension in the relationship between length of line, size of character, leading and the size of the book page. As a rule wider leading is chosen than for a text in prose. In this way each line is accentuated and its value stressed. A sensitive interplay between good type design, type size, regular spacing between letters and words and open leading can make the formal pattern of a poem into an artistic event.<sup>14</sup>

However, the production of a typography constructed purely from letter forms was not the primary focus of Mueller-Brockmann. What his typographic method achieved was a typography in which all elements, including letter forms, had an equal potential of visual expression. He wanted “to construct the argument objectively with the means of visual communication”<sup>15</sup> This visual possibility of typography is described by Armin Hoffmann whose work, like Mueller-Brockmann belonged to the International Typographic Style:

A language of pictures, drawings, diagrams and photographs is in the process of supplanting language, or at least of extending and enriching its scope. Increasingly it has become common practice to depend on systems conceived in visual terms for information and guidance.

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<sup>14</sup> Josef Mueller-Brockmann, *Grid Systems in Graphic Design*, p. 38.

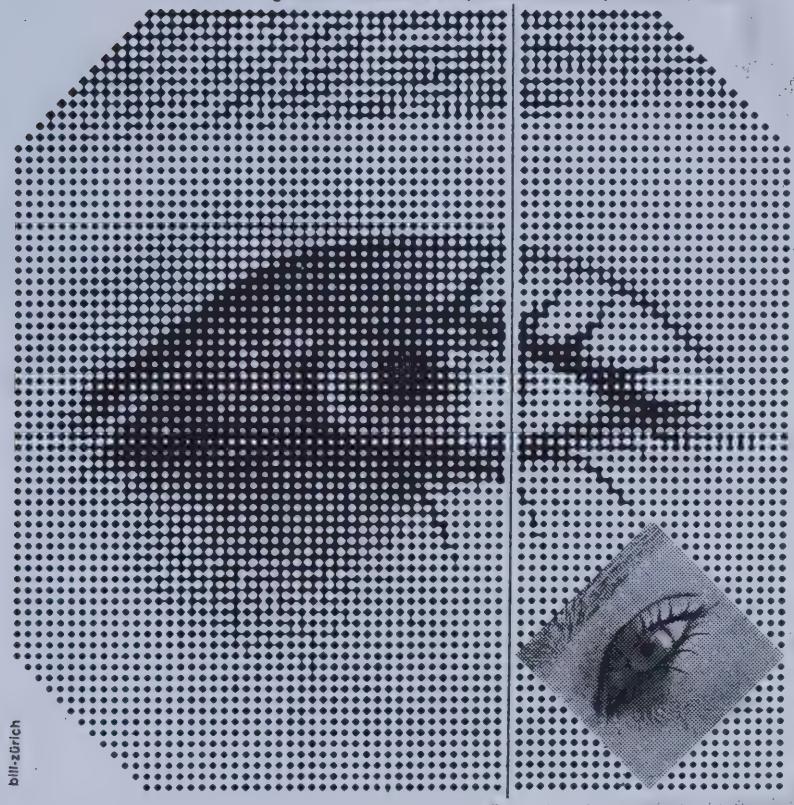
<sup>15</sup> Ibid., p. 11.



## Max Bill plate 3

**Das Auge sieht im allgemeinen die kleinen Punkte nicht aus welchen eine fotografische Reproduktion in der Zeitung besteht. Stark vergrößert wird der Raster deutlich und man erkennt, daß die Größe der Punkte die Tonstufung des Bildes bestimmt. Um für seine Verwendungsart das richtige Cliché herzustellen, braucht es Erfahrung und sorgfältige Arbeit.**

Wir besitzen diese Erfahrung und sind sorgfältiges Arbeiten gewöhnt: Wetter & Co., Cliché-Anstalt, Zürich 6, Tel. 61.737

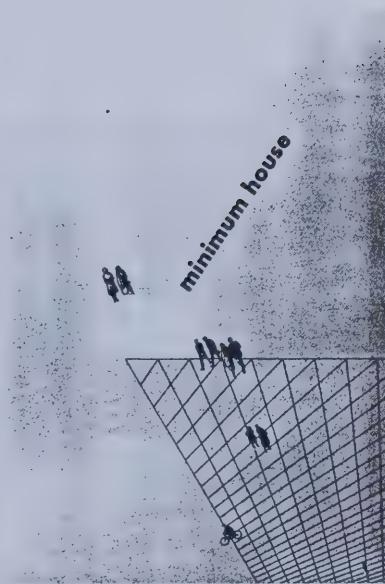




## Ladislav Sutnar plate 4



403  
Book jacket / Buchumschlag / Jaquette de livre,  
Ladislav Sutnar, Prague / Prag, 1930



404  
Book jacket / Buchumschlag / Jaquette de livre,  
Ladislav Sutnar, Prague / Prag, 1929



## Johanannes Canis and Max Burchartz plate 5



393  
Handbill for a provision dealer's / Flugblatt für ein  
Lebensmittelgeschäft / Prospectus d'un magasin de  
produits alimentaires, Johanannes Canis, Bochum



394  
Publicity sheet / Werbeblatt / Feuille publicitaire,  
Max Burchartz, Bochum, 1925



In producing posters, magazines, technical books, comics, films and the like, the media, of course, use their own specific resources and processes but to get their message across they give priority to the picture. It is fair to say that verbal grammar now has a counterpart in pictorial grammar. But this new grammar still lacks structural organization because of its complexity. A completely new way of looking at things quite distinct from the traditional modes of verbal thinking, is needed to grasp the new signs and symbols.<sup>19</sup>

The intent of Mueller-Brockmann's development of a typographical method can be seen as involving the creation of a typographical expression which emphasized the visual expression of the typography. In order to achieve this degree of typographical sophistication and clarity, Mueller-Brockmann emphasized the need for typography to be rationally based. It is this characteristic which he found most appealing amongst the early 20th century typographers.

We are indebted to the exponents of objective and functional typography and graphic design for the development of regulative systems in visual communication. As long ago as the twenties works conceived in objective terms and composed in accordance with strict principles were being produced in the fields of typography, graphic design and photography in Germany, Holland, Russia, Czechoslovakia and Switzerland.<sup>20</sup>

The development of a disciplined methodology was what was seen to be of importance if the full potentials of typography were to be harnessed. For Mueller-Brockmann, this discipline was necessary in order to implement a 'regulative system' which 'composed in accordance with strict principles'. In particular, the grid was the form which he saw as being the embodiment of this 'regulative system'. Although he saw the

<sup>19</sup> Hans Wichmann, ed. *Armin Hofmann: His Work, Quest and Philosophy* (Boston: Birkhauser, 1989), p. 171.

<sup>20</sup> Mueller-Brockmann, *Grid Systems in Graphic Design*, p. 7.



'flowering' of the grid as occurring after 1945 Mueller-Brockmann felt indebted to the design pioneers of the early 20th century for its initial application:

The grid as a controlling principle in the form we know it today still remained to be invented. Yet the first steps were already being taken towards it in the course of efforts to achieve the greatest possible order and economy in the use of typographic resources. The principle of the grid system presented in this book was developed and used in Switzerland after World War II. The second half of the forties brought the first examples of printed matter designed with the aid of a grid. This new trend was characterized by a disposition of text and illustrations conceived on strict principles, by uniformity in the layout of all pages, and by an objective attitude in the presentation of the subject.<sup>21</sup>

A typographical methodology based upon the grid was the strategy used by Mueller-Brockmann to remedy the decline of typographical quality. Specifically, he saw the intense disciplined rationality demanded by the grid as being an effective way to counter any degeneration that he saw as intruding upon the typographical profession. The importance of the grid can be seen in Mueller-Brockmann's book explaining his typographical methodology: *The Grid in Graphic Design*. The grid provided the possibility to position all of the visual elements of typography within a system of regulated visual relationships. In this way, Mueller-Brockmann found a basis from which to construct a typographical methodology which emphasized a rational visual expression.

The grid is used by the typographer . . . for solving visual problems in two and three dimensions. . . .

By arranging the surfaces and spaces in the form of a grid the designer is favourably placed to dispose his texts, photographs and diagrams in conformity with objective and functional criteria. The pictorial elements are

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<sup>21</sup> Ibid.



reduced to a few formats of the same size. The size of the pictures is determined according to their importance for the subject.

The reduction of the number of visual elements used and their incorporation in a grid system creates a sense of compact planning, intelligibility and clarity, and suggests orderliness of design. This orderliness lends added credibility to the information and induces confidence.<sup>22</sup>

Furthermore, the capacity of the grid to emphasize visual expression allowed for a particular typographical possibility: the ability of typography **to be** a form of individual expression. Through the disciplined use of a regulative system, a typographer had the means to convey a visual statement composed by counterpointing distinct visual elements. The grid provided the opportunity to create an expression based on the potentially expressive intermediate zones between different types of visual informations (both representational and linguistic). The potential of this intermediate zone was especially sought by Mueller-Brockmann because its expression rested firmly upon visual interaction. Again, this new pictorial language is summarized by Armin Hoffmann:

It is deeply instructive and revealing, for example, to approach one pictorial object and take along a second one of similar structure and place it in the immediate proximity of the first. There need be no visible link between the first and second signs but they will nevertheless enter into immediate contact with each other. It is highly important to realize that, in a certain sense, pictorial signs function just as alphabetically as written signs. This knowledge should deter us from attributing truthfulness to the single picture or sequence of pictures, however realistically they may be presented. The message conveyed must appear between the pictures and not by means of pictures. It is important to grasp this point when exploring the world of signs and symbols.<sup>23</sup>

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<sup>22</sup> Ibid., page 13.

<sup>23</sup> Hans Wichmann, ed. *Armin Hofmann: His Work, Quest and Philosophy*, p. 172.



It can be seen that an important intention of Mueller-Brockmann was the creation of a typographical methodology which would give to typographers the means to create typographies that were clear, rational and, above all, visually rich in expression. The grid opened the possibility of tapping into areas firmly entrenched in visual relationships.

It should be noted that although it does open expressive possibilities, the typographical methodology based on a grid as well imposes limitations. That is, the visual expression conforms to the conditions set by the grid. What Mueller-Brockmann's typographical methodology provided was a systematic means of expression and, by doing so, it provided an expansion of expressive possibilities - albeit possibilities limited by the conditions of the grid.

In the examination of typographical reform, there appears to be an interesting link between Mueller-Brockmann and Tschichold. This reform, according to Mueller-Brockmann, was made possible by the work of certain individuals. Amongst these and of particular importance was the work of Jan Tschichold. Mueller-Brockmann wrote:

Modern typography is based primarily on the theories and principles of design evolved in the 20's and 30's of our century. . . In his book "Die neue Typografie" (1928) J. Tschichold formulated the rules of an up-to-date and objective typography which met the needs of the age.<sup>24</sup>

Tschichold's book *Die neue Typografie* was written in order to combat the degenerative level of quality of contemporary typography. In it Tschichold stated a clear program based primarily upon two radical reforms. The first was the abandonment of the traditional symmetrical compositions in favor of asymmetrical ones. The attraction of asymmetrical compositions was in the greater degree of flexibility this configuration allowed. As Mueller-Brockmann stated, "Asymmetric design afforded more variety and

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<sup>24</sup> Mueller-Brockmann, *Grid Systems in Graphic Design* , p. 7.



could be more readily accommodated to practical and aesthetic requirements.”<sup>25</sup> According to Ruari McLean's description of *Die neue Typografie* in the book *Tschichold: Typographer*, asymmetric composition allowed for an exploration by the typographer of the “subtle rhythms and tensions which complemented those being explored by the modern abstract painters and sculptors like Mondrian, El Lissitzky, Kandinsky and Malevich.”<sup>26</sup> Thus, flexibility was not only attractive for its own sake but, also it offered the possibility to utilize the visual experimentation being explored by contemporary artists.

The second notion of reform was the dismissal of all usage of serif typefaces. Instead, Tschichold proposed the use of only sans serif typefaces.<sup>27</sup> This notion was radical in two ways: it eliminated the massive amount of decorative fonts created during the 19th century which had contributed to a degeneration of typographical quality, and it imposed upon typographers a style of font which was not in traditional usage. This break complemented the attraction to asymmetrical compositions. It was seen as expressing something intrinsic to the new century. “Coupled with [asymmetrical composition] was the conviction that the only type-face capable of expressing the new age was sans serif: it was the bare bones of lettering, the primal, elementary letter-shapes, the only true visual expression of the twentieth century.”<sup>28</sup>

What gave *Die neue Typografie* its sense of authority was its absolute posture. It was a methodology which only tolerated typography which utilized sans serif lettering and

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<sup>25</sup> Mueller-Brockmann, *A History of Visual Communication*, p. 222.

<sup>26</sup> Ruari McLean, *Jan Tschichold: Typographer* (London: Lund Humphries, 1975) p. 39.

<sup>27</sup> Serif typefaces are fonts which have terminal strokes at the top and bottom of the main stem of the letter. The font of this thesis is a serif typeface: Times Roman. Sans serif typefaces are fonts which have no terminal strokes. An example of a sans serif typeface is Helvetica, the font most often used on major highway signage.

<sup>28</sup> Mclean, p.39.



was asymmetrical in composition. The use of serif lettering and symmetrical composition was rejected as degenerate. What justified this absolute posture was a strict idea of function as measured by the product and the means of production. Tschichold demonstrated that an asymmetrical composition was extremely well suited for the capacities of the contemporary machine compositors and, through examples of the new typography, that asymmetrical composition, in conjunction with sans serif lettering, created a clear and well-ordered typographical product (plate 6, page 21).

The impact of the book was tremendous. Although its premises were not accepted by all, because of its authoritative tone, *Die neue Typografie* was a book which could not be ignored. McLean gives a brief description of its reception:

Tschichold's elegant design and comprehensive account of the new typography and its important place at the heart of modern art and design produced an electrifying effect. The book was discussed everywhere, arousing occasionally as passionate opposition as support, but the trend of typographic design on the Continent was changed from that day on. Tschichold had given to the young, and to those with eyes to see, a new gospel, an ideal in which they could believe, a policy which was clear-cut, revolutionary, dynamic and drastic.<sup>29</sup>

The importance of *Die neue Typografie* was that it offered a clear model for typographical reform. Unsparring in its criticism and absolutist in its propositions, it decisively injected into typography a feasible methodology of simple and pure design. Undoubtedly, Mueller-Brockmann must have been attracted to this clarity. However, its pull must have been its attempt to create a rational basis for typography. *Die neue Typografie* proclaimed itself as being a methodology rationally constructed from the idea function of type itself. This function was defined as the purely formal operations and

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<sup>29</sup> Ibid. p. 40.



## plate 6

Beziehungen nachzuweisen und seine Konsequenzen darzulegen. Klarheit über die Elemente der Typographie und die Forderung zeitgemäßer typografischer Gestaltung zu schaffen, ist Gegenstand dieses Buchs. Der Zusammenhang der Typographie mit allen anderen Gestaltungsbereichen, vor allem der Architektur, hat in allen bedeutenden Zeiten bestanden. Heute erleben wir die Geburt einer neuen, großartigen Baukunst, die unserer Zeit das Gepräge geben wird. Wer einmal die tief innere Ähnlichkeit der Typographie mit der Baukunst erkannt und die Neue Architektur ihres Wesen nach begreiflich gelernt hat, für den kann kein Zweifel mehr daran sein, daß die Zukunft der Neuen und nicht der alten Typographie gehören wird. Und es ist unmöglich, daß etwa, wie manche meinen, auch in Zukunft beide Typographien wie noch heute weiter nebeneinander bestehen. Der kommende große Stil wäre keiner, wenn neben der zeitgemäßen noch die Renaissanceform auf irgendwelchen Gebieten, sei es Buchdruck oder Architektur, weiter existierte. Der Romantismus der vorgehenden Generation, so verständlich er ist, hat noch nie einen neuen Stil verhindert. So wie es heute absurd ist, Villen wie Rokokoschlösser oder wie gotische Burgen zu bauen wie vor vierzig Jahren, wird man morgen diejenigen belächeln, die die alte Typographie noch weiter zu erhalten trechten.

In den Kampf zwischen dem Alten und dem Neuen handelt es sich nicht um die Erschaffung einer neuen Form um ihrer selbst willen. Aber die neuen Bedürfnisse und Inhalte schaffen sich selbst eine auch äußerlich veränderte Gestalt. Und so wenig man diese neuen Bedürfnisse hinwegdisputieren kann, so wenig ist es möglich, die Notwendigkeit einer wirklich zeitgemäßen Typographie zu bestreiten.

Darum hat der Buchdrucker heute die Pflicht, sich um diese Fragen zu bemühen. Einige sind mit Energie und Elan schöpferisch vorangegangen. Für die anderen aber gilt es noch fast

ALLES  
zu tun

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## DIE ALTE TYPOGRAPHIE (1450-1914)

Während die Geschichte der Typographie von der Erfindung bis etwa zur Mitte des vorigen Jahrhunderts eine fortlaufende, ruhige Entwicklungskurve zeigt, bietet die Entwicklung seit dieser Zeit das Bild ruckelnder, unregelmäßiger, Störungen, sinnernd durchkreuzender Bewegungen, die Taschenrechner-technischer Erfindungen, die auf die Entwicklung bestimmd einwirken. Die Typographie der ersten Epoche (1440-1850) beschränkt sich fast ausschließlich auf das Buch. Die Gestaltung der daneben auftauchenden Flugschriften und der wenigen Zeitungen entspricht der des Buchseiten. Bestimmendes Element, besonders seit dem Anfang des 16. Jahrhunderts, ist die Typus. Die übrigen Teile des Buches erscheinen sekundär, als eine angefügte, schmückende, nicht Wesensbestandteil. Die Buchgestalt als Ganzes wird im Laufe der Jahrhunderte zwar variiert, aber nicht entscheidend gewandelt. Gutenberg, der nichts anderes im Sinne hatte, als die damalige Buchform — die Handschrift — zu imitieren, entwickelte seine Typen aus der damaligen Buchschrift, der gotischen Minuskel. Sie, die man heute gern religiösen und anderen feierlichen Inhalten vorbehält, diente ihrer Zeit zur Niederschrift oder zum Druck aller vorkommenden, auch profanen, Texte. Der Erfinder wählte mit der gotischen Minuskel, den „Textus“, eine Schrift zum Vorbild, die für Inhalte von Bedeutung, d. h. für solche Bücher verwendet wurde, deren Inhalt den Horizont nur aktuellen Interesses überschritt. Neben diesen gotischen Minuskel war im täglichen Leben für aktuelle Schriften, Urkunden und kurze Niederschriften die gotische Kursiv (in Frankreich *Barbare* genannt) in Gebrauch, die später Schoeffer zur Ausgangsform der von ihm zuerst benutzten Schwabacher machte. Mit diesen zwei Schriftenarten begnügte sich das Zeitalter zwischen der Erfindung und dem Beginn des 16. Jahrhunderts. Von den Variationen der Gotisch und der Schwabacher, die mit den Schriften Gutenberg und Schoeffers die allgemeine Linienführung gemeinsam haben, dürfen wir bei dieser historischen Betrachtung ebenso abssehen, wie von den Formen der Antiqua type vor 1500.

Die Buchform als Ganzes gleicht zu dieser Zeit fast vollkommen der Form des geschriebenen spätgotischen Kodex. Sein Reichtum an bemalten, goldgeklebten großen und farbigen kleinen Initialen, die Rubrikatur, die Randleisten der Anfangsseiten werden in das gedruckte Buch übernommen.

Ursprünglich mit der Hand eingefügt, werden diese schmückenden Teile bald in Holz geschnitten und mit gedruckt, bei kostbareren Ausführungen eines Buches nachträglich koloriert. Der Satz in zwei Kolumnen überwiegt. Die Titel zeigen eine asymmetrische, von Logik nicht übermäßig belastete Aufteilung. Seltens, daß exakte Gliederungen erscheinen — sie bleiben auf Italien beschränkt. Die Harmonie von Text, Initialen und Titel ist

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relationships which exist between the individual letters, groups of letters and between the letters and the overall format. That is, *Die neue Typografie* proposed a typographical method which concentrated upon the expressive possibilities of type itself. This idea greatly informed Mueller-Brockmann's grid-based typographical methodology. The decisive and rational temperament of *Die neue Typografie* coincided with his desire for the development of a strict regulative system which would initiate and maintain typographical reform.. Hence, typographical solutions proposed by Mueller-Brockmann tend to incorporate asymmetrical compositions and sans serif letterforms.

Ironically, what Mueller-Brockmann found so appealing about the methodology of *Die neue Typografie* was what eventually led Tschichold to reject it. The dogmatic insistence that the only way to ensure clarity was the consistent imposition and maintenance of a specific order became a repugnant idea to him. Ultimately, Tschichold completely abandoned the dictates of *Die neue Typografie*. In a talk he gave at the Type Directors Club in New York on April 18, 1959, he stated that "What I do today is not in line of my often mentioned book *Die neue Typografie*, since I am the most severe critic of the young Tschichold of 1925-8. A Chinese proverb says 'In haste there is error'. So many things in that primer are erroneous, because my experience was too small."<sup>31</sup>

What precipitated this change in Tschichold was his personal contact with the Nationalist Socialist Germany. Those who felt compelled to label some artists as 'degenerate' also felt compelled to label Tschichold's *Die neue Typografie* as being 'un-German'. The Nazis had their own idea of what was proper typography. It consisted of pseudo-medieval German usage of black letters. As Tschichold's ideas were cosmopolitan and did not superficially mimic Teutonic tradition, he was seen to be a threat. In March 1933, he and his wife were arrested.<sup>32</sup> Tschichold was imprisoned for six weeks, and, his

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<sup>31</sup> Ibid. p. 156.

<sup>32</sup> Tschichold and his wife were arrested after the Nazis had entered and searched his Munich flat. Tschichold was persecuted because the Nazis considered his ideas as being an instance of 'Kultur-Bolshevism'. The arrest and detention were instances of intimidation.



teaching position was terminated. Upon release, Tschichold, along with his wife and son, sought and gained refuge in Switzerland.

However, it was not the intimidation tactics of the Nazis which made Tschichold reject his previous ideas. It was, in fact, his dismay at the similarity between his own conception of order and that of the Nazis which convinced him to change. Tschichold observed the same degree of arrogance in his methodology as was evident in Nationalist Socialism. Tschichold recounts his reflections:

A few years after *Die neue Typografie* Hitler came. I was accused of creating 'un-German' typography and art, and so I preferred to leave Germany. Since 1933 I have lived in Basel, Switzerland. In the very first years I tried to develop what I had called *Die neue Typografie* and wrote another text-book, *Typographische Gestaltung* in 1935 which is much more prudent than *Die neue Typografie* and still a useful book! In time, typographical things, in my eyes, took on a very different aspect, and to my astonishment I detected parallels between the teachings of *Die neue Typografie* and National Socialism and Fascism. Obvious similarities consist in the ruthless restriction of type-faces, a parallel to Goebbels' infamous *gleichshaltung*, and the more or less militaristic arrangement of lines. Because I did not want to be guilty of spreading the very ideas which had compelled me to leave Germany I thought over again what a typographer should do.<sup>33</sup>

His rejection of *Die neue Typografie* and its absolute convictions was complete. The new Tschichold criticized the two main thrusts of *Die neue Typografie*: the asymmetric composition and the use of sans serif letter forms. Although he understood that the state of typography at the time required such drastic measures, his criticism for his younger self was nonetheless harsh:

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<sup>33</sup> McLean, p. 157.



The so-called New Typography appeared in 1925. It demanded radical simplicity and an abandonment of symmetrical composition. Thus it committed two errors in reasoning. First, it blamed the general confusion in the field solely on the multitude of typefaces and claimed to have found the cure, the font for our time, in the sanserif. Second, it regarded the <center axis> (which had indeed led to some ridiculous creations) as a straitjacket and looked to asymmetry as a way out. Then as now, a strict reduction in the number of the roman and blackletter fonts used, retaining only the best of the available forms, and more exacting layout, would suffice to improve the image of typography considerably. The sanserif only seems to be the simpler script. It is a form that was violently reduced for little children. For adults it is more difficult to read than serifed roman type, whose serifs were never meant to be ornamental. Nor is asymmetry in any way better than symmetry; only different. Both arrangements can be good.<sup>34</sup>

Following World War II Tschichold radically changed his methodology. Although he completely repudiated the logic of *Die neue Typografie*, he did not abandon the reason for its creation. Tschichold continued to believe in the need for intelligent typographical reform. However, instead of calling upon contemporary ideas for assistance, he turned to tradition as a source for reform. Tradition became for Tschichold a ‘precious legacy’.

It should be noted that for him, the 19th century still represented a low point in the history of typography. The tradition that he rediscovered was a much older one, spanning from the late medieval (c. 1300) to the end of the Baroque era (c. 1770). The 19th century was noticeably missing from his definition of typography’s ‘precious legacy’.<sup>35</sup>

This new tradition minded Tschichold, along with Mueller-Brockmann, serves as the double center of this study. From this point onwards, “Tschichold” designates the traditionalist Tschichold.

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<sup>34</sup> Tschichold, p. 15.

<sup>35</sup> Ibid. pp. 27-9.



Thus, Tschichold and Mueller-Brockmann, represent two different approaches to 20th century typography. The latter developed a typographical method which emphasized the application of new tendencies and ideas. Conversely, Tschichold following his rejection of **Neue Typografie** placed an emphasis on old tendencies and ideas.

Tradition, according to Tschichold provides typography with a solid methodological basis. His understanding of the word ‘tradition’ was linked to its Latin origins: *trado*, ‘I hand over’. For Tschichold, this handing over meant the passing on of ideas in the form of conventions, which were owed respect insofar as they represented a historically based social decision. The word ‘convention’ was also linked to its Latin origins: *conventio*, ‘to come together’. According to Tschichold these conventions were solidified only after a long period of time and represented “an agreement hardened by many battles”<sup>36</sup> - a handing over and a coming together.

For Tschichold, it was convention that established a method to ensure that typographical operations would be meaningful. By following what was accepted, typography could provide a product which could be meaningfully engaged. Conventions were important because they constituted the grounds of possibility for general apprehension. As Tschichold said, “The printed word addresses everybody, people of all ages, the educated and the less educated alike. He who can read enters into a contract that is more cohesive and more difficult to extinguish than any other.”<sup>37</sup> Conventions connect the typographer’s task to the reader. They are the material upon which the ‘contract’ is written: “If we can comfortably read anything at all, it is exactly because we respect the usual, the commonplace. To be able to read implies conventions, knowledge of them, and regard for them. If conventions are thrown overboard, the danger arises that the text will become unreadable.”<sup>38</sup>

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<sup>36</sup> Ibid. pp. 23 and 24.

<sup>37</sup> Ibid. p. 13.

<sup>38</sup> Ibid. p. 26



Therefore, conventions were something which should be regarded with extreme respect: "Since typography appertains to each and all, it leaves no room for revolutionary changes. We cannot alter the essential shape of a single letter without at the same time destroying the familiar printed face of our language, and thereby rendering it useless."<sup>39</sup>

Tschichold was not alone in his respect for tradition. There were other 20th century typographers who shared his belief in the preservation of conventions. Frederic W. Goudy (1865 - 1947), an American typographer, described how he saw the very basis of typography - letter forms - as a development rooted in history:

Originally, letters were adaptations of natural forms employed in picture writing, but by a process of evolution they have become arbitrary signs with little resemblance to the symbols from which they were derived. These arbitrary shapes have passed through their periods of uncertainty and change; they have a long history and manifold associations; they are classics, and should not be tampered with, except within limits which a just discretion may allow.<sup>40</sup>

Tradition and conventions in typography were sacrosanct because of their powerful ability to constitute meaning.

Thus, it can be seen that, whereas Mueller-Brockmann defined the function within typography through an analytical perspective, Tschichold defined the function within typography through a historical perspective. Mueller-Brockmann placed an emphasis on the regulative aspect of a rational compositional framework. Tschichold placed an emphasis on the adherence to social and cultural conventions.

However, Tschichold's admiration for the traditional was not based on pure nostalgia. The past is merely a source of well thought out methods. In order to construct a

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<sup>39</sup> Ibid. pp. 4 and 5.

<sup>40</sup> Frederic W. Goudy, *The Alphabet and Elements of Lettering* (New York: Dover Publishing, 1963), p.23.



methodology pertinent to the 20th century, Tschichold believed that the methods of the past had to be sorted out and reorganized. He was not interested in creating a methodology which worshipped the past and dismissed the present. Rather, he intended to create a methodology which had a great respect for the past but which was nonetheless firmly entrenched in the present. That is, his respect for the past did not embody itself as a form of historicism. Although Tschichold (like Goudy) did not generally approve of tampering with tradition, alterations were permissible:

The typography of old books is a precious legacy, well worthy of continuation. It would be both impertinent and senseless to alter drastically the form of the European book. What has proved practical and correct over centuries, like the quad indent - should this be displaced by a so-called <experimental typography>? Only indisputable improvements would make sense. Real and true experiments have a purpose: they serve research, they are the means to find the truth and lead to evidence and proof. In themselves, experiments are not art. Infinite amounts of energy are wasted because everybody feels he has to make his own start, his own beginning, instead of getting to know what has already been done. It is doubtful that anyone who doesn't want to be an apprentice will ever become a master. To respect tradition is not at all historicism. All historicism is dead. But the best lettercutting of the past lives on. Two or three old designs are only waiting to be resurrected.<sup>41</sup>

In addition to his admiration of typographical tradition, Tschichold shunned a typographical methodology which emphasized the typographer's individuality. The objective of typography "must not be expression, least of all self-expression, but perfect communication achieved by skill. Taking over working principles from previous times or other typographers is not wrong but sensible. Typography is a servant and nothing more.

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<sup>41</sup> Tschichold. p. 26.



The servant Typography ought to be the most perfect servant.”<sup>42</sup> That is, good typography should not impose its character upon the activity of reading. As demonstrated in the following quotation, for Tschichold, expression was not, as it was in Mueller-Brockmann's idea of typography, an objective but, rather, an obstacle to good typography:

In a masterpiece of typography, the artist's signature has been eliminated. What some may praise as personal styles are in reality small and empty peculiarities, frequently damaging, that masquerade as innovations. Examples are the use of a single typeface - perhaps a sanserif font or a bizarre nineteenth-century script - a fondness for mixing unrelated fonts; or the application of seemingly courageous limitations, such as using a single size of type for an entire work, no matter how complex. Personal typography is defective typography. Only beginners and fools will insist on using it.<sup>43</sup>

If personal expression is to be suppressed, what role is left for the individual typographer to play? According to Tschichold, the sublimation of idiosyncratic expression hardly diminishes the individual typographer's task. Far from being placed in a passive role, the typographer is responsible for the creation of what he calls ‘perfect typography’, an exacting activity which requires a determined and rigorous thinking. He describes its creation as an activity in which the individual is faced with a monumental task:

Perfect typography depends on perfect harmony between all of its elements. We must learn, and teach, what this means. Harmony is determined by relationships or proportions. Proportions are hidden everywhere: in the capaciousness of the margins, in the reciprocal relationships to each other of all four margins on the page of a book, in the relationship between leading of the type area and dimensions of the margins, in the placement of the page number relative to the type area, in the extent to which capital letters are spaced differently from the text, and not least, in the spacing of the words

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<sup>42</sup> McLean. p. 158.

<sup>43</sup> Tschichold. p. 4



themselves. In short, affinities are hidden in any and all parts. Only through constant practice and strictest self-criticism may we develop a sense for a perfect piece of work. Unfortunately, most seem content with a middling performance. Careful spacing of words and the correct spacing of capital letters appear to be unknown or unimportant to some typesetters, yet for him who investigates, the correct rules are not difficult to discover.<sup>44</sup>

The task of the individual typographer is then one of finding the most harmonious typographic situation. Harmony has nothing to do with an individual's idiosyncratic expressive desires. Instead it is something which must be found within the vast store of conventions available to the typographer. More precisely, harmony is apparent to all who are subject to the same conventions. That is, what is harmonious is determined by tradition.

The valorized endpoint is therefore not innovation but balance between the capabilities of the reader and those of typography. What determines the conditions of this balance are conventions. The typographer's task is thus to negotiate these conditions in order to obtain 'perfect' balance.

This 'perfect' balance is the most harmonious typographical situation which, in Tschichold's terminology, is an example of 'perfect typography'. Tradition determines what is harmonious; the typographer's ability determines if this harmony is in 'perfect' balance. According to Tschichold, the typographer's ability is one of *takt*: "Beginners and amateurs alike overestimate the importance of the so called brain wave, the sudden brilliant idea. Perfect typography is largely a matter of choice among different and already existing possibilities: a choice based on vast experience. The correct choice is a question of tact."<sup>45</sup> This translation of *takt* as "tact" is deceptive. This word *takt* had a special significance for Tschichold. Although the English word *tact* is a suitable substitute, it

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<sup>44</sup> Ibid.

<sup>45</sup> Ibid. p. 9.



does not convey the same meaning as the German word *takt*. *Takt* has a musical connotation relating to timing and rhythm. It is in this sense that one can see the very active role of the individual typographer. Just like a musician, the typographer is responsible for setting the correct rhythm in order to allow the material to express itself.<sup>46</sup>

Thus it can be seen that Tschichold's objective in suppressing individual expression was an attempt to find a typographical situation which allowed the content of the typographical material itself to be expressive. The job of the typographer was to find this situation through the tactful negotiation of conventions. The ultimate aim of this negotiation was to arrive at a harmonious solution. The entire field of operations for the typographer was therefore determined by tradition. Tschichold's typographical methodology was one which advocated a humility toward tradition in order to arrive at the most suitable typographic solutions for the present day.

## Summary

The two typographical methodologies of both Mueller-Brockmann and Tschichold were motivated by a common desire to address the need for typographical reform. Both were attempts at typographical reform and both relied upon rational procedures to institute this reform. The formal divergences and differences between each method are indications of how Tschichold and Mueller-Brockmann differed in their vision of reform. The process they both chose was the rational reform of a method of communication: typography.

The question of this thesis is whether their rational reform of typography can be understood as an instance of ideology. To use the word 'ideology' is potentially problematic. To many, this word connotes an overt political aim with massive social

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<sup>46</sup> Ibid. p. xii.



consequences. Frequently, ‘ideology’ is used in such instances as Fascist ideology, Communist ideology, Religious ideology and so forth. Certainly the motivations of Tschichold and Mueller-Brockmann were intrinsically centered on the activities of formal aesthetic expression. However, it should be understood that such activities have the potential to constitute an ideological activity.

In his book *Ideology: An Introduction*, Terry Eagleton discusses this potential. His discussion of the word ‘ideology’ is useful in that it provides the possibility to understand how it may exist in forms which concretize themselves in subtle manners. He refutes the notion that ‘ideological’ is a word that can be applied to any situation. Such a method of designation merely empties the word of any valid meaning. As Eagleton states, “not everything, . . . may usefully be said to be ideological. If there is nothing which is not ideological, then the term cancels all the way through and drops out of sight.”<sup>47</sup> However, this refutation is tempered by his acknowledgment that one cannot decide from a single perspective what can or cannot be designated as ideological. For Eagleton, what designates the ideological is the context. That is, if one is to examine whether something is ideological or not, one must determine if the conditions are appropriate for this something to be seen as ideological.

In essence, Eagleton is stating that the examination of ideology is a matter of discourse; it is a matter of understanding whether or not something has the ability, within its own situation, to exert and maintain an ideological influence. Thus, although Eagleton refutes calling everything ideological on the grounds that such a designation is insensitive to contextual circumstances, he does claim that, if the contextual circumstances are used as the principal measure, everything potentially does have ideological implications. In other words, to understand and examine the ideological, it is important to maintain a discursive perspective.

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<sup>47</sup> Terry Eagleton, *Ideology: An Introduction* (New York: Verso, 1991), p.9.



A way of putting this point is to suggest that ideology is a matter of 'discourse' rather than 'language'. It concerns the actual use of language between particular human subjects for the production of specific effects . . . Ideology is less a matter of the inherent linguistic properties of a pronouncement than a question of who is saying what to whom for what purpose."<sup>48</sup>

In regard to the two typographical methodologies discussed in this thesis, Eagleton's description may be used to understand their ideological potential. Within their contextual circumstances, the 'language' is the actual form of typography. The 'discourse' is the particular enframement of this 'language' as constituted by the limitations imposed by the methodologies. The 'special effects' may be seen as referring to the different motivations underlying each typographer's methodologies: for Mueller-Brockmann it would involve the advocacy of innovation; for Tschichold it would involve the advocacy of tradition. Hence, the two typographical methodologies may be seen as implicitly containing ideological motivations.<sup>49</sup>

It is recognized that the ideological opportunity within typography is limited, as it is in all discursive forms. However, this fact does not justify denial of ideological potential. Although limited, it does offer a window of opportunity for ideological activity. It was the objective of this thesis to analyze the nature of this activity. Essentially, it proposed that a rigorous formal activity constitutes a particular arena for ideological activity.

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<sup>48</sup> Ibid.

<sup>49</sup> Richard Freedman and Seamus Miller, in their book *Re-Thinking Theory* question the appropriateness of Eagleton's definition. Although it is important to take their discussion into account, Eagleton's definition is of interest to this thesis for his emphasis on 'the typical' gives to 'the particular' the possibility to engage actively in the construction of an ideological manifestation. Since this thesis attempts to study how typography engages in such an activity, Eagleton's definition, in this context, has its benefits.



In order to accomplish this, it was necessary first to locate a specific aspect of typographical activity in which the presence of ideological potential could be demonstrated. This was the task of the next chapter.



## Chapter 2

### Ideological Manifestation: Introduction

In the previous chapter it was shown that, although there exist fundamental differences between the typographical compositions of Mueller-Brockmann and Jan Tschichold, both typographical methodologies proposed a rational formal revision. It was the objective of this thesis to uncover the manner in which these two typographic methodologies, as rational and formal activities, are demonstrative of ideological manifestation. To accomplish this an examination of the form of geometric composition which each of the two designers employed in their system of typographic method was undertaken.

There are three reasons why geometric composition has been chosen. First, it is in this aspect that the visual difference between the typographical compositions of Mueller-Brockmann and Tschichold is most apparent. Thus, a study of the geometric composition would examine why their typographical compositions were so different.

Secondly, as geometry is governed by its own specific formal rules, it provides an area of formal activity for possible study.

Thirdly, geometric methods which direct the possibilities of construction are indicative of the presence of ideological frameworks. Therefore, in the formal activity of geometric composition are possibilities of revealing the embedded ideological position.

The idea that methods of geometry manifest ideological frameworks has been put forward by David Lachtermann in his book *The Ethics of Geometry: A Genealogy of Modernity*. His book makes a distinction between the geometry of antiquity and that of the moderns (Cartesian). The former was used for the purpose of demonstration; the latter was used for the purpose of construction. Lachtermann sees this difference as



indicative of the differences inherent in the ethics of each era. In short, for Lachtermann, geometry manifests an ideological position.<sup>50</sup>

This third reason is the most important in examining ideological manifestation. If geometric method is indicative of the presence of an ideological framework, then geometric compositions may also indicate the same. This is, however, a point which may be difficult to perceive without an understanding of the historical development within typography of the potential ideological role of geometrical composition.

### **The Medieval Concept of Manifestatio**

Mueller-Brockmann and Tschichold did not invent the use of geometric composition in typography, for it existed in handwritten texts prior to the creation of typography. And, although typography in its strict definition (a form of mechanical production of literary material) came into existence during the Renaissance, it was the middle ages which established many of the characteristics which are intrinsic to typographical form. The medievals placed great significance on the geometric composition of their manuscripts. Although the nature of this significance was developed in conditions peculiar to medieval thought, the formulation of the responsibilities of the geometric composition during the middle ages set the conceptual parameters which continue to have consequence in the geometric composition of typography.

The conceptual world of the middle ages was one which recognized the existence of the divine. Intrinsic to this recognition was the idea that the divine was the ultimate goal of all human activities. However, it was also a conceptual world which held that the ideal of the divine was unattainable by any human activity. The challenge the medievals faced

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<sup>50</sup> David Rapport Lachtermann, *The Ethics of Geometry: A Genealogy of Modernity* (New York: Routledge, 1989).



was the development of a means of expression worthy of the divine while still recognizing the impossibility of fully realizing the true nature of the divine.

A solution to this problem was developed in *manifestatio*, a medieval concept in which human expression could formulate an understanding of that which was beyond human comprehension. *Manifestatio* accomplished this task through both an intricate use of analogy and the recognition of the limitations of analogy. This situation is described in *The Idea of the Book in the Middle Ages*, in which Jesse M. Gellrich attributes to Aquinas the recognition of the separation of the means of clarifying from what is being clarified. Gellrich states that:

... Aquinas establishes as a guiding premise the impossibility of knowing divine nature in itself - in its own *esse*: "God as an unknown is said to be the terminus of our knowledge in the following respect: that the mind is found to be most perfectly in possession of knowledge of God when it is recognized that His essence is above everything that the mind is capable of apprehending in this life: and thus, although what He is remains unknown, yet it is known that He is." Recognizing the difference between human knowledge ... and divine wisdom ... , the study of sacred doctrine is established as an analogous mode. Analogy, Aquinas argues, is the "proper proportionality" of human knowing that does not impinge upon the purity of the divine order so long as that proportionality is maintained. In certain areas of *sacra doctrina*, such as "the names of God," we cannot separate ... - what a name designates from the way it designates - and hence must assert that, as a person may be called just or good, God must be justice or goodness itself. The means of maintaining the analogous mode in such areas is possessed by the style of the argumentation, by the cue of question after question, and the repetition of such formulas as *intendet significare* ("intends to signify"). In these cues the style leads us "by the hand" - *manuductio* - realizing the clarification in each successive step. Such a deliberate means of proceeding acknowledges itself as



proportionately different from an absolute conceptual system that does not proceed by names or images or analogies.<sup>51</sup>

The analogy that *manifestatio* dealt with was the relationship between ‘means of clarifying’ and ‘what is being clarified’. The awareness of the limitations of this analogy, which, as stated, was intrinsic to the concept of *manifestatio*, was brought about by two factors.

The first factor was the absolute cognizance, when dealing with sacred doctrines, of the distinct difference between the ‘means of clarifying’ and ‘what is clarified’. The ‘means of clarifying’ belongs to human abilities; ‘what is clarified’ belongs to the divine. This is further explained by Gellrich:

Reason, Aquinas explains, cannot describe divine mysteries like the Trinity, cannot specify their *esse*; it can only ‘clarify’ - *manifestare* - the articles of sacred doctrine. In this principle, and especially in this term, *manifestatio*, Aquinas articulates an assumption that governs his own *Summae theologiae* . . .

. . . In the summa, *manifestatio* makes no mistake about remaining on the proper human side of the divine boundary, which is protected by highly formalized principles of proceeding. However, although those principles set out to clarify an order believed to be intrinsic to the nature of things, the rigidly schematic style imitates - becomes the speculum of - the careful subdivision and order of its own procedure. And in this movement of thought, Scholasticism appears to rely on the function of schematic structure that governs various other medieval cultural forms.<sup>52</sup>

This quotation indicates, as well, the second factor which made one aware of the limitations of analogy: a strict adherence to a system of expression that is definitely

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<sup>51</sup> Jesse M. Gellrich, *The Idea of the Book in the Middle Ages* (Ithaca: Cornell University Press, 1985), pp. 64 & 66.

<sup>52</sup> Ibid. p. 66.



understood as being independent from what was being analogized. That is, the limitations were made definite by a formalization which was rooted in human capabilities. Thus, the attempt to approach an understanding of the divine never deluded anyone into thinking that it actually penetrated the divine. The approach always remained an approach and never succeeded in arriving at its desired destination.

What *manifestatio* was able to accomplish was a thorough construction of a space of activity from which medieval thought believed one may experience the most comprehensive apprehension of that which is beyond true apprehension. As was stated previously, what was necessary for the construction of this space of activity was a disciplined and rigorous delineation of the system of analogical expression.

The *manifestatio* of which summae are capable, first of all, is the summa itself, not only the “highest” reaches of speculation, but the “totality” or complete itemization of all aspects of an issue; such treatises must be composed of adequate *articuli*, constituent “parts” or “member,” and subdivided into finer elements; the pattern of *ordo* of the whole is preserved by proper comparisons, *similitudines*, and sufficient contrasts, *distinctiones*; the inclusion of precise diction, harmonious sentences, and rhyme will foster mnemonic devices for rapid memorization; finally the last item in an argument must affirm the *concordantia* of the whole, the principle that no contradictions remain as all opening objections are conclusively refuted.<sup>53</sup>

This attainment of the possibility to experience the most comprehensive apprehension of that which is beyond true comprehension was of special significance for medieval thinkers. For them, *manifestatio* contained the potential to experience the existence of the divine (without actually penetrating the divine) in a manner which was accessible to human thought. Thus, it had the capability to reflect (although, in a diminished form) the

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<sup>53</sup> Ibid.



divine. As articulated by Gellrich, by rigorous development of an argument ordered as an analogy to the divine, the schema of the argument obtained a sense of the divine:

... the dominance of the schematic in this order rests upon the same sense of sacred space that is evident in formulaic artistic styles of the middle ages. The sacrality of spatial arrangement controls how thinking proceeds: thought is the speculum of sacred order. Although the medieval sense of space as fraught with significance has changed considerably from earlier autochthonous cultures, it nonetheless holds on to a fundamental anticipation about sacred space that is one of the identifying characteristics of mythological thought: 'to organize a space,' says Eliade, 'is to repeat the paradigmatic work of the gods.'<sup>54</sup>

What is of further interest is that the medievals not only saw this ability of *manifestatio* in abstract intellectual systems but in concrete formal systems as well. Of specific interest is the way that *manifestatio* was seen by the medievals in the concrete formal system of the book.

However, the concept of *manifestatio* extended only to the actual form of the book and not necessarily to the activity of writing. According to Gellrich, the medievals were suspicious of writing in general in that it could potentially contain ideas which are not sacred in nature. Therefore, writing did not have to adhere to the rigorous system necessary to *manifestatio*.<sup>55</sup>

The medieval idea of the book (as a form), on the other hand, was based upon the most sacred model of the Bible. Gellrich describes this idea:

The idea of the Book readily corresponds to the medieval conception of the Bible. the book that revealed or made present God's transcendent and absolute will, law, and wisdom, a container of the divine plan and itself a sign

<sup>54</sup> Ibid. p. 68.

<sup>55</sup> Ibid. pp. 35 - 9.



of the totality of that plan in the world. This idea of the Bible was composed from the familiar practice of reading “allegorically” for historical continuities between various scriptural books, such as King David as a type in the Old Testament of Christ in the New; of reading “tropologically” for moral significance, for example, David’s adultery as representative of lechery and other deadly sins; and of interpreting “anagogically” for revelation of divine mysteries, such as David playing the psaltery as a prefiguration of the music accompanying the songs of the heavenly host in praise of the celestial lamb. Such assumptions of continuity and unity gradually led to the conception that any book of the Bible, or all of them together, constitutes a totality, not a loose collection of texts, but a book bound by a single purpose, which Saint Augustine called “the New Law of Charity.” What Thomas of Celano said in the thirteenth century of the Book of Apocalypse was the implied understanding of the Bible from writings of the earliest fathers of the church. Apocalypse, said Thomas, “is a book in which the total is contained” (“*Liber . . . in quo tutum continetur*”). In its simplest form, the idea of the Book begins in medieval readings of the Bible.<sup>56</sup>

Thus, the medievals had an ideal for the form of the book. It was not merely a description of an object with a cover and pages. Instead, it was a form which could indicate the potential presence of *manifestatio*. The importance of this idea is that it showed, for the medievals, that the form of the book had a sacred significance independent from its content. Although what was chosen to be inside the book determined its ability to claim the characteristic of the sacred, as a form in itself, the book signified the potential for the occurrence of *manifestatio*. Therefore, the **form** of the book was seen as a potentially independent arena for comprehending that which was beyond true comprehension. The question which must be asked is whether this idea of the form of the book could be extended to the more detailed aspects of its aesthetic properties. That is, can the concept of *manifestatio* be extended to the visual composition of the manuscript pages? The answer is found by examining the medieval notion of aesthetics and beauty.

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<sup>56</sup> *Ibid.* pp. 31 - 2.



In his book *The Aesthetics of Thomas Aquinas*, Umberto Eco states that the medievals made a distinction between the artistic and the aesthetic:

The concept of the aesthetic refers to the problem of the possible objective character, and the subjective conditions, of what we call the experience of beauty. It thus refers also to problems connected with the aesthetic object and aesthetic pleasure. . . .

The medievals . . . concerned themselves with psychological and ontological conditions of aesthetic pleasure, but they distinguished this from the problem of artistic creation. Medieval thought, like classical thought, did not consider that art necessarily had to do with the production of beautiful things or the stimulation of aesthetic pleasure. *Ars* signified the technique for constructing objects. If some of the objects appeared to be beautiful, this was a side issue.<sup>57</sup>

Beauty was thought of as being distinct from artistic activity by the medievals for a very important reason. Beauty was an attribute of God and was, therefore, divine in nature. Artistic activity was specifically a human activity. The conceptual world of the medievals placed a definite distinction between the divine and the human.

However, the existence of divine Beauty was reflected by the existence of worldly beauty. For the medievals, the beautiful, through its harmonious construction, was a formal comprehension of Beauty that was accessible to human apprehension. The medievals made a sharp distinction between 'the beautiful' and 'Beauty'. The relationship between Beauty and the beautiful created a vision of the universe in which the existence of God could be felt through the sensible experience of the beautiful. The experience of the beautiful, therefore, was not to be equated with a direct experience of Beauty. This distinction was clearly defined in the middle ages. The beautiful was merely the means through which humans attempted to comprehend the incomprehensible (Beauty).

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<sup>57</sup> Umberto Eco, *The Aesthetics of Thomas Aquinas*, trans. Hugh Bredin (Cambridge, Massachusetts: Harvard University Press, 1988), pp. 2 - 3.



This distinction between Beauty and the beautiful was reinforced by the medieval distinction between Beauty and artistic activity. Artists could, by rigorous construction, create an object which might aspire towards Beauty, but, their efforts would always be limited by the human. However, from the perspective of the medievals, this activity constituted an example of the highest level of human capacity. Therefore what was needed, in order to attain the beautiful was a rigorous method of artistic construction. The importance, for medieval aesthetics, of this rigorous constructive method is discussed by Eco:

The medieval need for beauty . . . created the need also for a metaphysical verification . . . Medieval aesthetic feeling had to be tested, and this occurred with the revival of Aristotle. With this there arose metaphysical structures and a rigor of method which would permit only those concepts of totality which were subject to law, classification, and measurement.<sup>58</sup>

By constituting a rigorous method of construction, the medieval artists had at their disposal a system that allowed them to manifest an understanding of the divine ideal. That is, artists could create an object (the beautiful) which, when experienced, was the most comprehensive apprehension of that which is beyond true apprehension (the divine).

It can be seen that there is a direct correspondence between the ‘Beauty’/‘the beautiful’ relationship and the ‘what is being clarified’/‘means of clarifying’ relationship of the concept of *manifestatio*. Both relationships describe an activity which was aware of its human limitations yet desiring a comprehension of the divine. In both of these activities, the irreconcilable difference between desire towards the divine and the limitations of human abilities was resolved by the adherence to a rigorous system of thought. The method of this system for the relationship of ‘what is being clarified’/‘means of clarifying’ was the use of analogy; the method of this system for the

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<sup>58</sup> Ibid. 25.



relationship of ‘Beauty’/ ‘the beautiful’ was the use of harmonious construction. Therefore, it can be said that the activity which is conditioned by the relationship between Beauty and the beautiful constitutes a specific manifestation of the medieval concept of *manifestatio*.

### Geometric Composition: Medieval

Intrinsic to the concept of *manifestatio* is the conscious portrayal of a rigorous system of argumentation. This portrayal was necessary in order to demonstrate a sense of totality to the argumentation. By having this sense of totality, *manifestatio* asserted its authority as an independent space of thinking. According to Gellrich, the medievals attained this authority for their aesthetic objects by their emphasis on what he calls the ‘mythological projection of the schema’. This emphasis was characterized by the idea that the aesthetic value of an artistic object lay in its rigor of construction. That is, the schema itself was the focus for the aesthetic experience.<sup>59</sup>

In particular, Gellrich demonstrates the existence of this idea in his observations of the Cross carpet page from the Lindisfarne Gospels (created at the end of the 7th century, plate 7, page 45):

While these conventional examples illustrate the way rigid forms and heavy emphasis on outline in medieval art betoken the mythological projection of the schema as the image, even in a work that is noted for its variation in line, color, and iconography, such as the Lindisfarne Gospels, the representation of space remains vividly in the foreground, and the delineation of schemata prevails over all other interests.<sup>60</sup>

<sup>59</sup> Gellrich, p. 31 - 2.

<sup>60</sup> Gellrich, p. 59



Thus, through the emphasis on the schema as the focus of aesthetic experience, the medievals had, at their disposal, a method which operated on a rigorous system. Furthermore, this method offered them an opportunity to portray a sense of aesthetic totality. Gellrich demonstrates this in his observations of the Cross carpet page:

Not a corner of the framed space is left “vacant.” In the upper quadrants, even the five black dots between the lateral pairs of **C**s are not “empty spaces” but form an axis crossed by a horizontal line of four smaller dots between the upper and lower **C**s. As the **C** shapes and **3**-figures are not arbitrary, neither are the black spaces haphazard; they are in homologous relation to the central cross of the illumination. Furthermore, as the whole page is divided into quadrants by the main cross, both upper quadrants are subdivided again into smaller quadrants by the cross of black spaces.<sup>61</sup>

Specifically, Gellrich concentrates upon the symbolic iconography.

The figures of bell, chalice, circle, rose window, birds, serpents, the numbers three and four are radiant with theological significance. The bell and the chalice have obvious eucharistic significance, and the circle may indicate ideas about the perfection of Christ’s abiding love or the unity of all men through the Crucifixion and Redemption. Neither the birds nor the serpents in the two lower quadrants have positive identity, but since the birds slay themselves (they bite their own necks), they recall common medieval mythologies about birds of self-death and new life, the pelican and the phoenix, which are certainly fitting in a painting of the cross of Christ. The serpents devour the birds in the lower quadrants but are themselves bitten in the upper sections of the page, illustrating the rivalry between serpents and

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<sup>61</sup> Ibid. p. 60.



plate 7<sup>56</sup>



<sup>55</sup> Ibid. p. 61.



birds set in motion when the serpent tempted Eve and was subsequently condemned. The serpents of evil will be devoured - as Mary was said to crush the serpent's head - by the pelican, the dove, the Christian soul, and Jesus Christ, although they will be threatened and "bitten" in that saving work.<sup>63</sup>

However, what is also present in his description is the active role which the geometric composition played.

For instance, in the famous page of the cross, twelve border lines stress the framing of space within. The whole area inside the border is organized according to the axial symmetry of the cross, which is composed of five bell-shaped figures, four of which are also chalice figures created by the semicircle bases that compose the center of the cross. Circles and circular shapes dominate the other areas of the page, particularly the interwoven shapes of the mythological birds and serpentine animals, repeated within the last detail of the concentric circles of their eyes. In the lower two quadrants, the interlacement of birds and serpentine animals in pink and gray are in homologous relationship with the number **3**. Each **3**-shape is face with an identical figure, and the pairs are repeated four times in each of the two lower quadrants. In the upper quadrants, serpents and birds are in homologous pattern with the letter **C** and form pairs of figures arranged back to back. The intertwining lacework of animals, birds, crosses, and circles throughout creates an effect of massive interdependence of line and figure to form a coherent, highly organized whole.<sup>64</sup>

The geometric composition provides the order for the entire page. It is what sets the ground for the possibility of visual 'argumentation'. The possibility that geometric composition was a legitimate method of *manifestatio* is what will be examined.

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<sup>63</sup> Ibid. p. 60.

<sup>64</sup> Ibid. p. 59 - 60.



This possibility is established when one examines the relationship established by the medievals between proportion and the beautiful. Inherent to the beautiful was the notion of harmony, which was directly determined by its adherence to proportion. Therefore, it is the proportional characteristic of form which establishes its harmonic nature. Thus, proportion, for the medievals, was intrinsic to the idea of the beautiful.

Eco outlines eight interpretations of proportion by St. Thomas Aquinas:

1. form is manifested because of proportion;
2. proportion, by its 'fitness', establishes a relationship between essence (the divine) and existence (the human);
3. proportion is quantitative in that it establishes the relationship amongst 'a multitude of fixed items';
4. proportion as a principle exists prior to proportion as a fact; that is, the idea of proportion precedes the use of proportion;
5. the use of proportion establishes a legitimate arena for the attainment of perfection;
6. proportion, in its ability to encompasses an infinite number of variations, defines a complicated network of visual 'argumentation'.
7. proportion establishes an intellectual relationship between the divine and the human (this interpretation defines a more active function for proportion than interpretation 1).
8. the use of proportion is dynamic; it can be used as a tool of visual 'argumentation' which actively explores and reveals the existence of the divine.<sup>65</sup>

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<sup>65</sup> Eco, pp. 83 - 98.



These eight interpretations define how proportion operated within the relationship between Beauty and the beautiful. Furthermore, they are also consistent with the basic concepts of *manifestatio*, which sees proportion as an independent arena of contemplation of the divine.

For the medievals, the specific type of proportion that was held in greatest esteem was mathematical proportion, seen as a revelation of divine order, present in all of nature. This belief is discussed by Eco in his examination of the metaphysical school of Chartres:

In the metaphysics of the school of Chartres, nature was an active principle which presided at the birth and the becoming of things, and whose operations and achievements involved an embellishing of the world (*exornatio mundi*) - that is, an order, an arranging of what has been created (*collectio creaturarum*). Matter is differentiated by weight and number, and so it assumes shape, figure, and color. This furnishing or fitting out of the world (*ornatus mundi*) is seen to obey laws of proportion and to result in determinate forms. It follows mathematical laws which operate from the depths of the formative energy of the life of nature - or, as William of Conches put it, "a certain force inherent in things, making similars out of similar things" ("vis quaedam rebus insita, similia de similibus operans"). In the metaphysics of the school of Chartres, the world was seen to be clearly ruled by number. Number, however, meant an organic principle and not an abstract mathematical rule. It was not so much that number presided over nature, as that nature was a creative force which ruled itself by number.<sup>66</sup>

Mathematical proportion reveals, according to the medievals, the consonance (*consonantia*) of divine order. This in itself makes it an ideal representative of the concept of *manifestatio*. What is most important to note is that the '*manifestatio*' nature of mathematical proportion was demonstrated in the middle ages by music, number theory and medieval geometry.

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<sup>66</sup> Eco, p. 78.



The nature of medieval geometry is different from our notion of mathematical geometry. Specifically, the geometry of the medievals was closely related to the mystical geometry of Pythagoras. Although they “. . . knew little if anything of Egyptian culture, . . . they inherited a number theory for ‘the oneness and inseparability of the world’ through Plato’s adaptation in the *Timaeus* of Pythagorean numbers.”<sup>67</sup>

The principles of this mystical geometry are largely unknown to us because, as a form of sacred knowledge, it was vehemently kept secret. However, the Danish historian Tons Brunes has speculated on its methods and procedures. As shown in plate 8 (p. 49), he presented a series of geometrical diagrams which he feels acted as the basis for geometrical construction in both antiquity and the middle ages. Brunes derived these geometrical diagrams from his study of sacred symbols (e.g., the circle and the square) and sacred numbers and measurements (e.g., the numbers 5, 7 and 10; the circumference and area of the circle). These geometrical diagrams represented the basic principles upon which he believed mystical geometers based their geometric constructions. In order to prove this, Brunes demonstrated their presence in the sacred monuments of antiquity. Plates 9 (p. 51) and 10 (p. 52) are two examples of his studies (The Temple of Poseidon and The Pantheon):

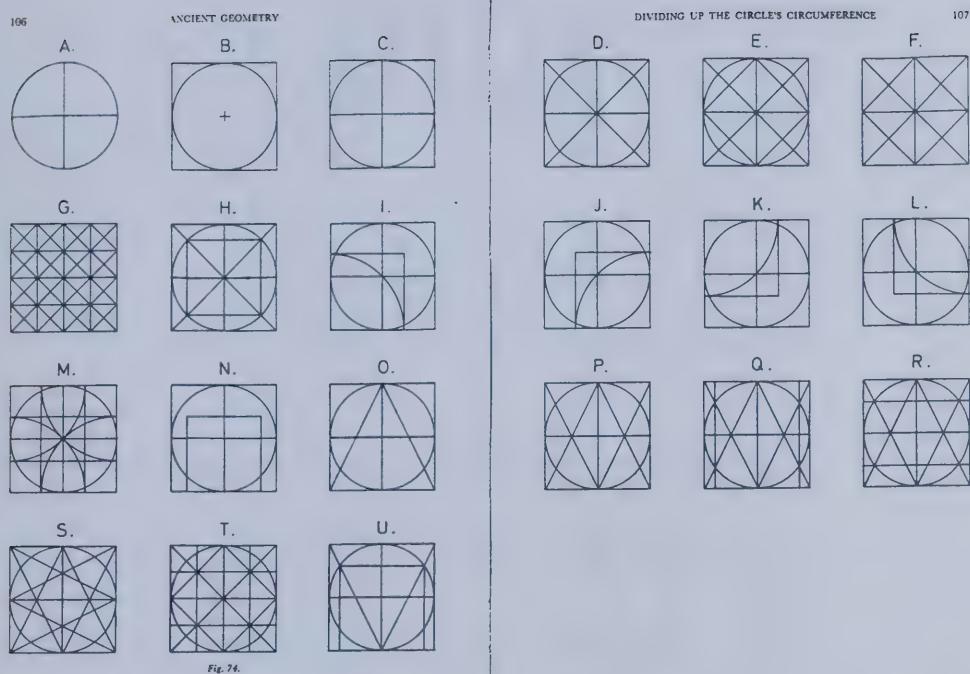
Furthermore, Brunes also saw the use of mystical geometry as extending into the middle ages. As an example of this extension, he demonstrates its presence in the geometrical construction of the Cologne Cathedral (plates 11, p. 53 and 12, p. 54).

Unlike Euclidean geometry, which uses logical procedures as a means towards a desired end (the demonstration of a proposition), mystical geometry dwelt upon the harmony of the procedure itself. It was a method of revelation as opposed to being a method of analytical inquiry. Thus, mystical geometry - based upon the ideas of Pythagoras - was an exploration of the human condition as it related to the divine. It

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<sup>67</sup> Gellrich, p. 77.





<sup>62</sup> Tons Brunes, *The Secrets of Ancient Geometry, Volume I*, trans. Charles M. Napier (Copenhagen: Rhodos, 1967), pp. 106 - 7.



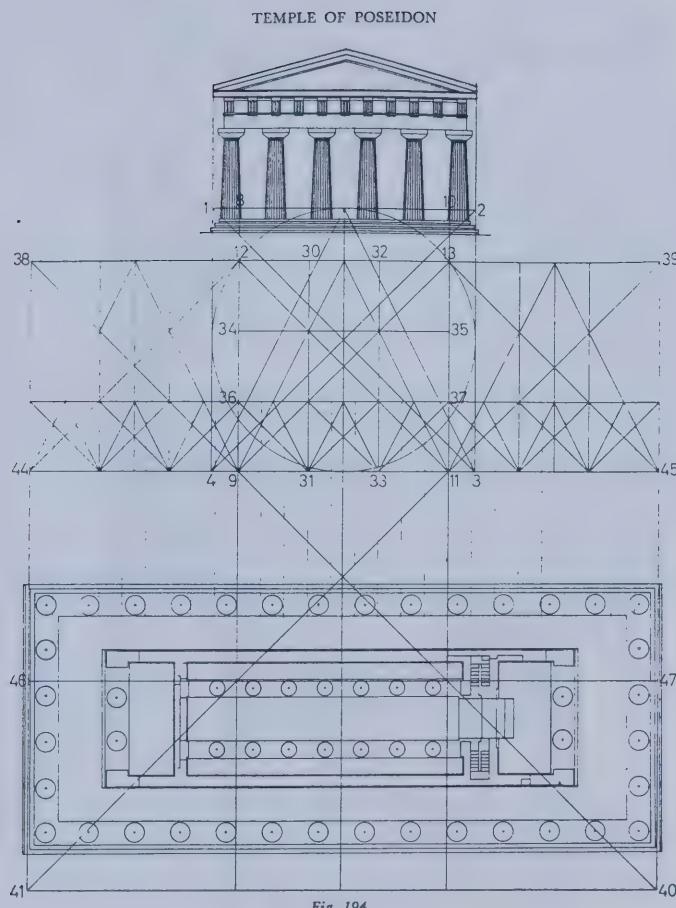


Fig. 194.

<sup>63</sup> Brunes, p. 293.



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## ANCIENT GEOMETRY

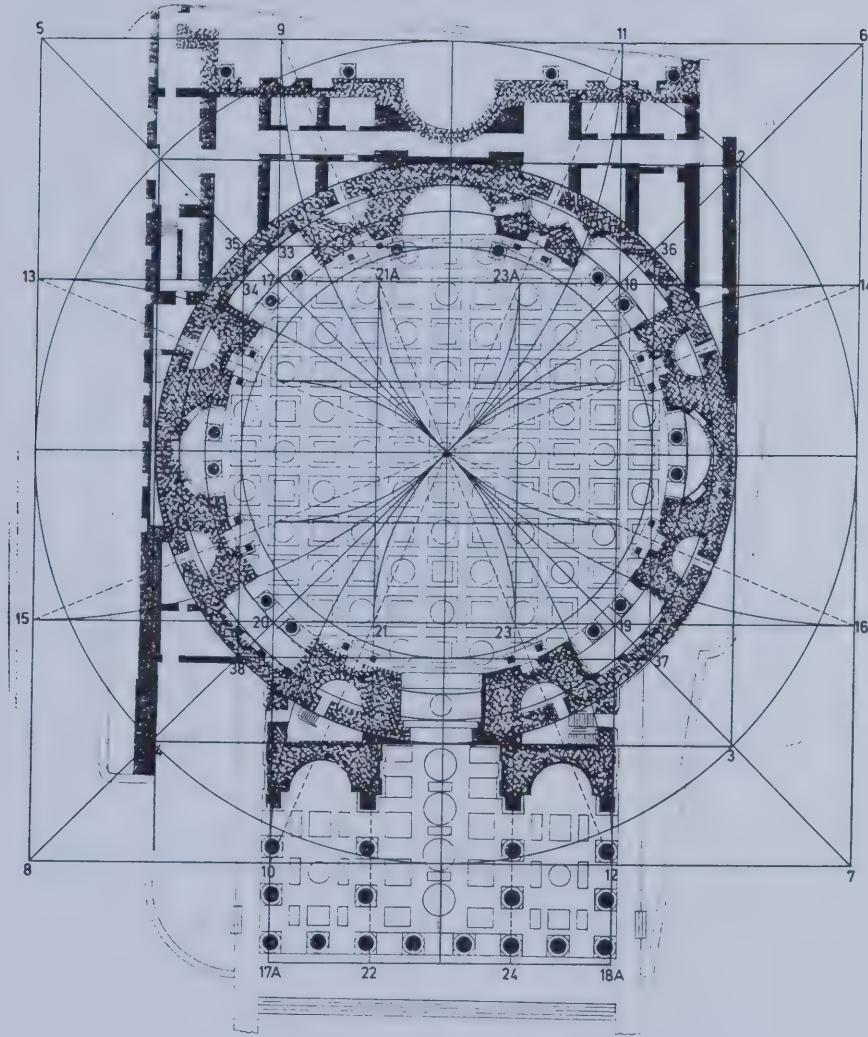


Fig. 246.

<sup>64</sup> Tons Brunes, *The Secrets of Ancient Geometry, Volume II*, trans. Charles M. Napier (Copenhagen: Rhodos, 1967), p. 50.



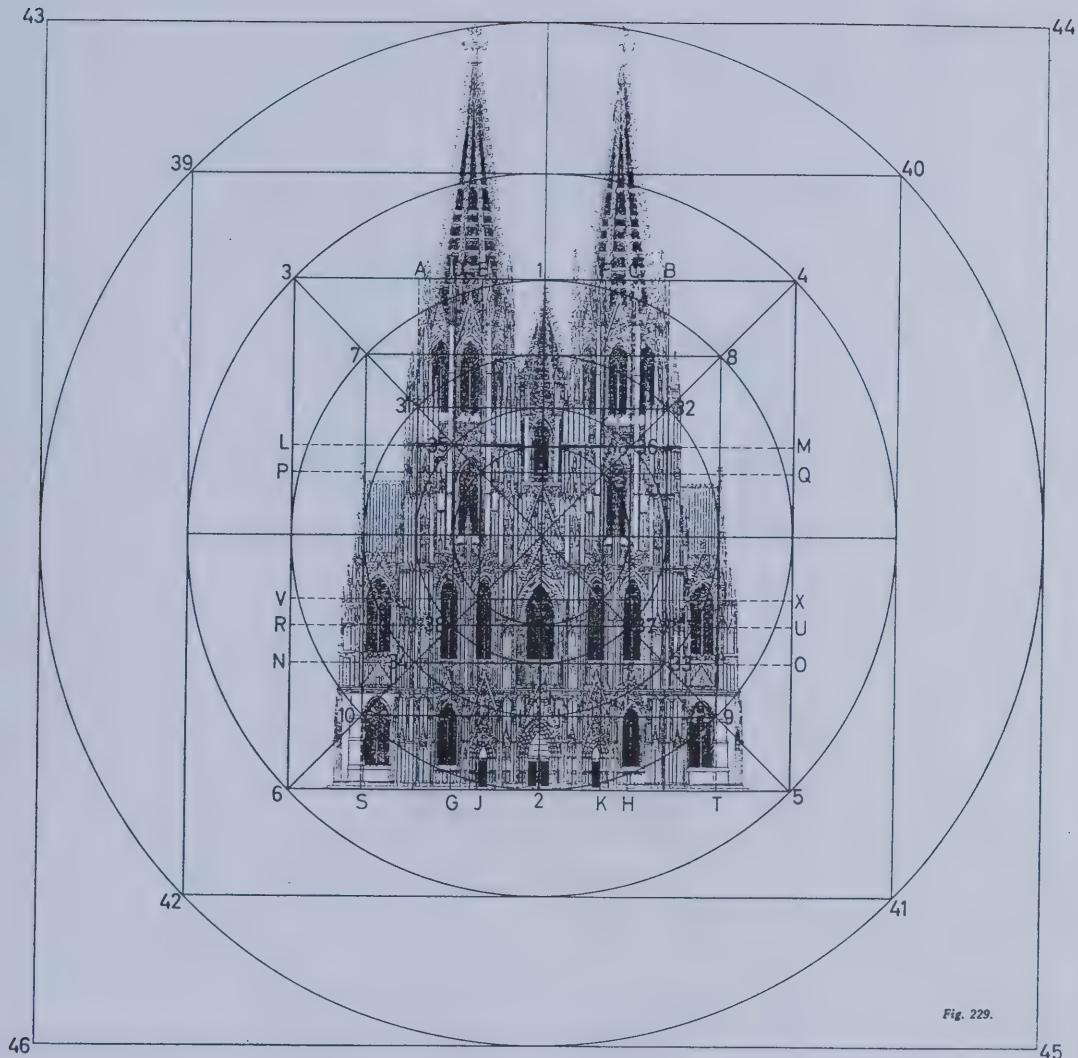
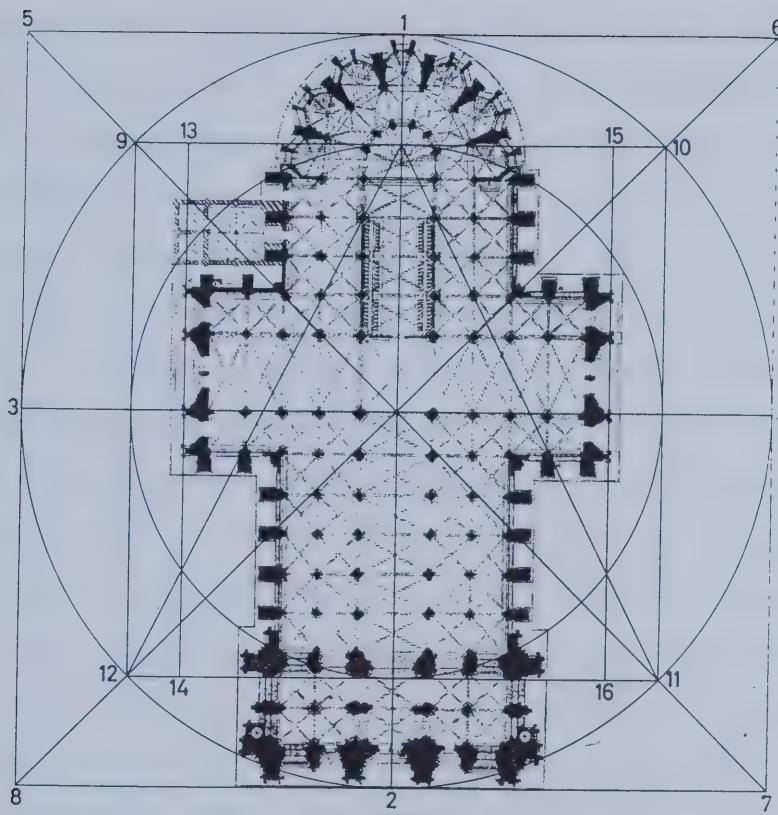


Fig. 229.

<sup>65</sup> Ibid. p. 24a.





<sup>66</sup> Ibid. p. 37.



established the existence of the sacred within the human world. As Gellrich states “We cannot say this is a position that asks to be challenged and doubted. On the contrary, it invites affirmation and extension, which it certainly received in the middle ages.”<sup>73</sup>

Although the medievals did not adhere strictly to all of the geometrical principles from antiquity, the ideals of mystical geometry were embraced by the medievals. In its emphasis on the derivation of form through the rigorous use of principles and in its emphasis on the creation of sacred spaces, it suited the requirements of *manifestatio*. In its compatibility with the medieval ideas of proportion, the principles of mystic geometry could be used to manifest the concept of *manifestatio*.

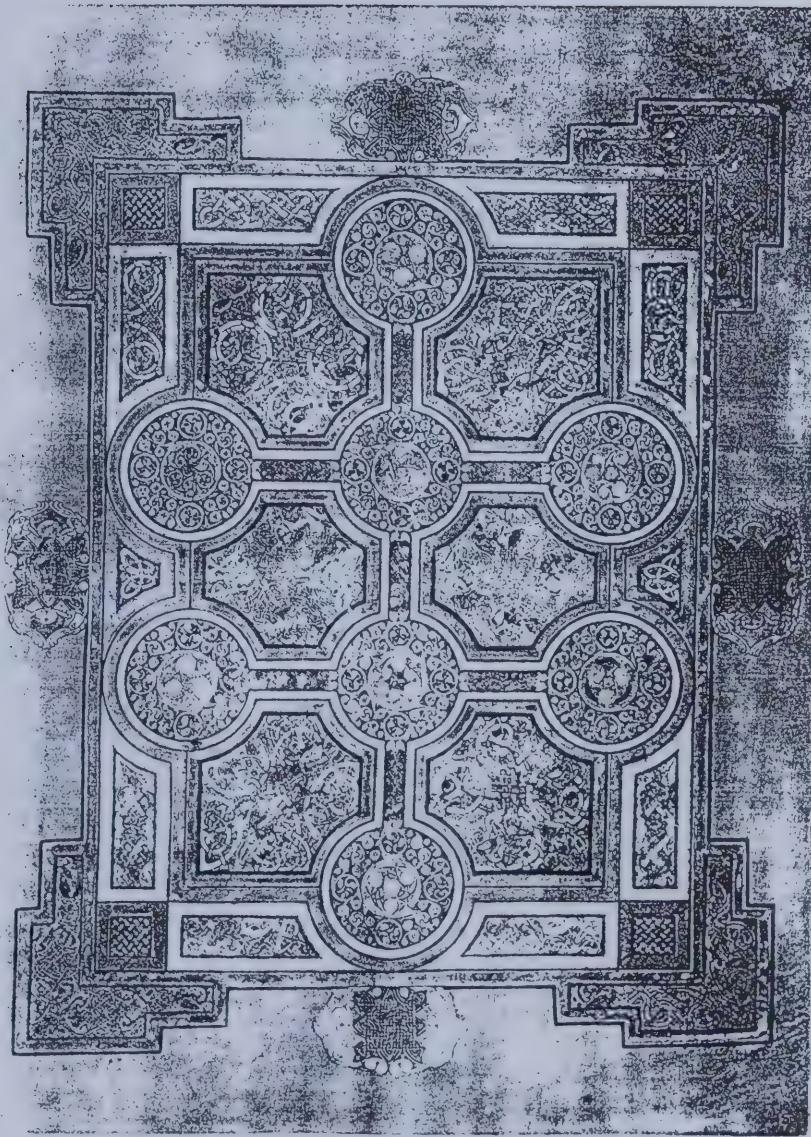
These ideals can be seen in the geometric composition of medieval illuminated manuscripts. Previously it was noted how Gellrich’s observations of the *Lindisfarne Gospels* demonstrated the concept of *manifestatio* in a general manner. *Manifestatio* is also present in the geometrical composition of a manuscript from the *Book of Kells* - a work which was made at the same time and by the same people as the *Lindisfarne Gospels*. What will be examined is the Cross carpet page of this sacred book (plate 13, p. 56). A study of this page reveals a particular geometrical composition (plate 14, p. 57).

This geometrical composition is derived from the combination of two geometric ‘principles’: the construction of hexagons by the placement of circles and the construction of a rectangle by the juxtaposition of two pentagons (plate 15, p. 58). These two ‘principles’ demonstrate a harmony between their two forms. Both contain within them rectangles which are proportionally identical. As well, these two geometric principles represent two principles of ordering. The hexagonal construction informs the placement of the interior details: the placement of the circles, the size of the circles, and the position of the interior frames. The pentagonal construction informs the sizes of the major frameworks and is also the principal determinant of the format size. Together, they

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<sup>73</sup> Gellrich, p. 77.



plate 13<sup>68</sup>

<sup>68</sup> Peter Brown, *The Book of Kells* (London: Thames and Hudson, 1980).



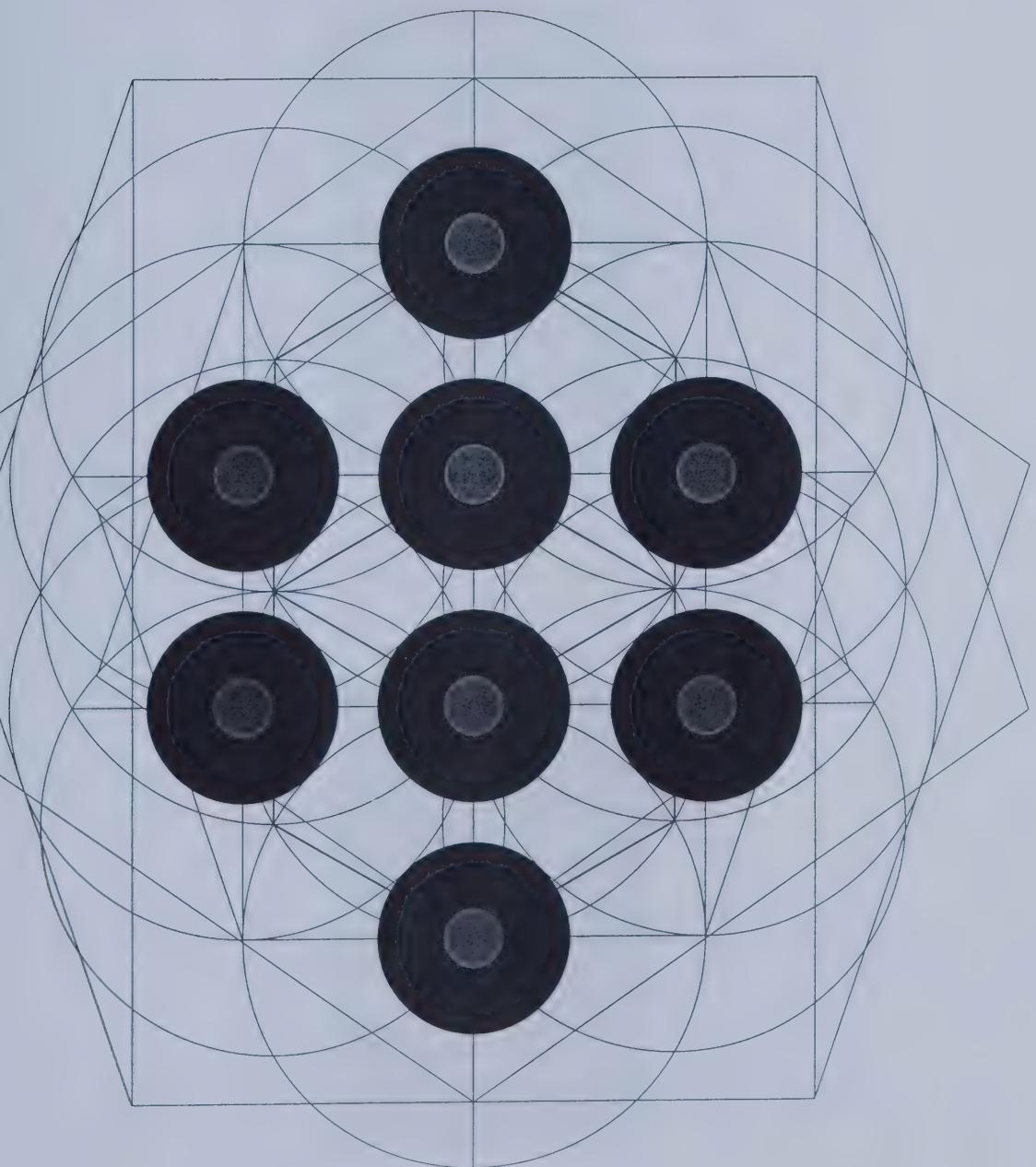
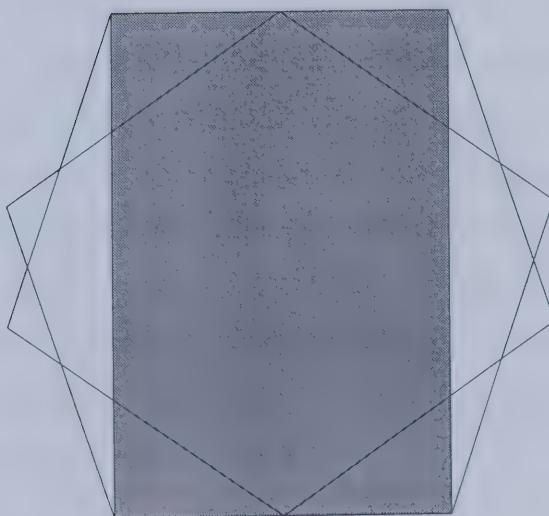
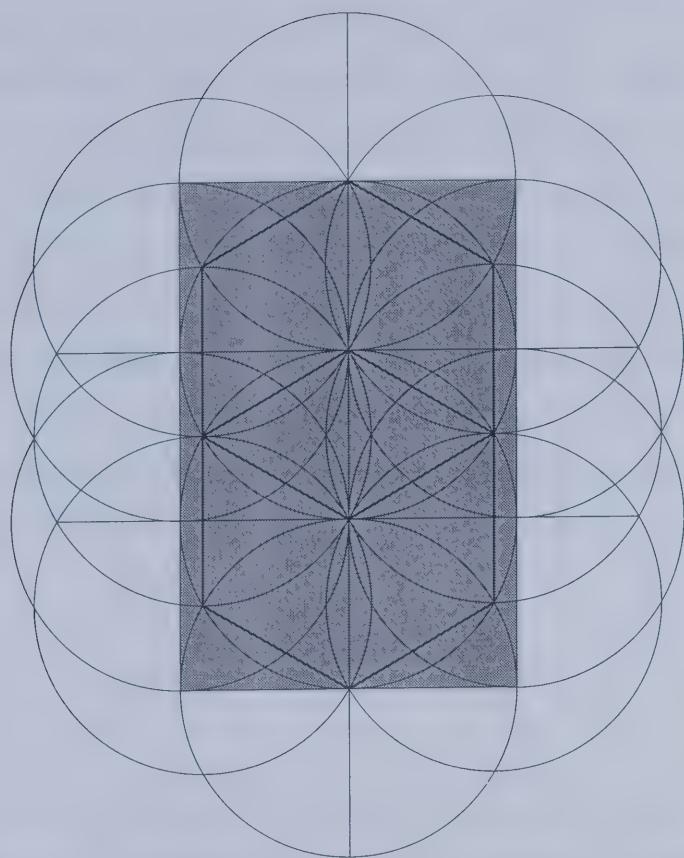




plate 15





mutually establish other positions and proportions. Plates 16 - 23 (pp. 60 -67) give a visual synopsis of the construction of the geometric composition.

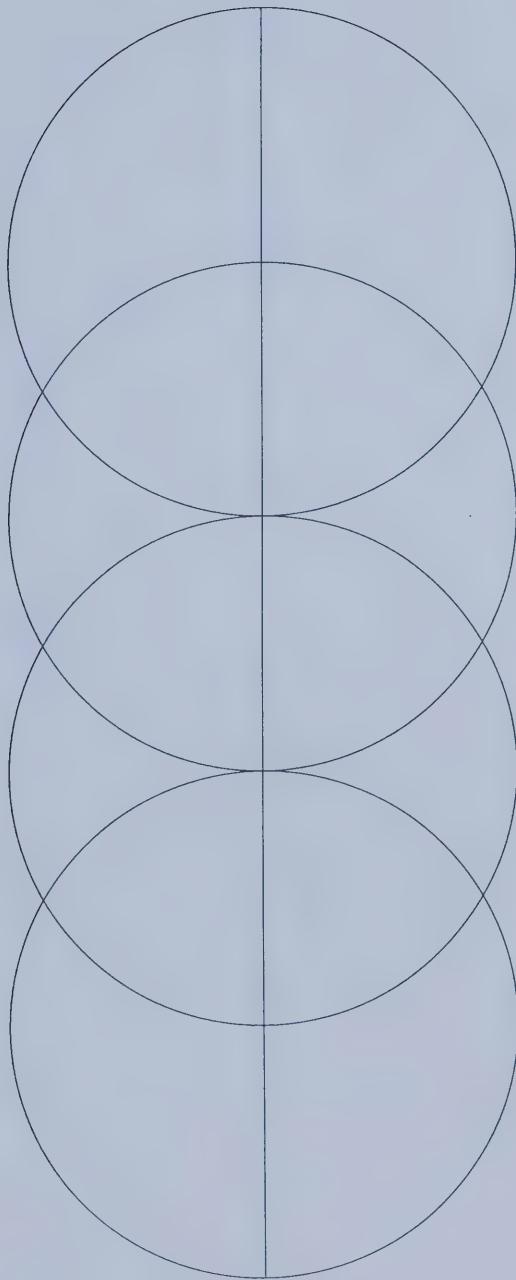
This establishment of order, through geometrical means, corresponds to the activity of clarification which was intrinsic to the concept of *Manifestatio*. The ‘means of clarifying’ is the rational demonstration of harmony and proportion by geometrical composition. As, for the medievals, the source of harmony and proportion is God, ‘what is being clarified’ is the divine. Geometric composition is not merely an establishment of a design; it is the presentation of a schema of thinking based on harmony and proportions. And, in the medieval mind, geometric composition demonstrated an ability to establish an independent realm of thought whose purpose was to present a comprehension of the divine.

## Summary

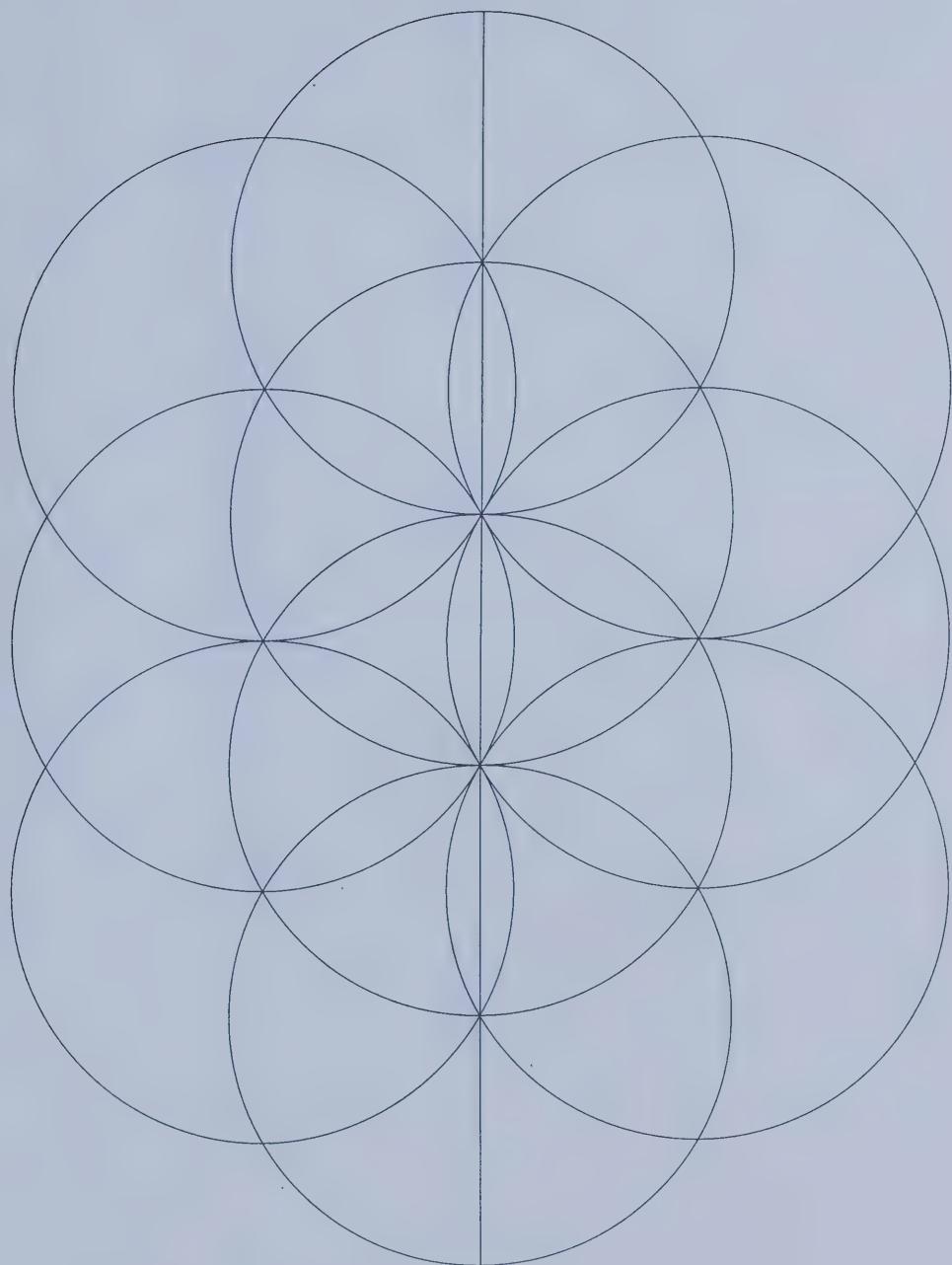
This examination of the conceptual parameters which governed the usage of geometric composition during the middle ages has shown that the concept of *manifestatio* was central to the medievals’ understanding of the existence of God within the limitations of human knowledge, one which facilitated their desire to experience the most comprehensive apprehension of that which is beyond true apprehension. The basic structure of this concept was the relationship and difference between the ‘means of clarification’ (human reason) and ‘what was being clarified’ (the divine).

By establishing this connection, it can be seen how (in the medieval setting of the parameters) the construction of the geometric composition of a visual form constituted an independent space of ideological thought. Historically, then, geometric composition had the capacity to produce ideological manifestation.

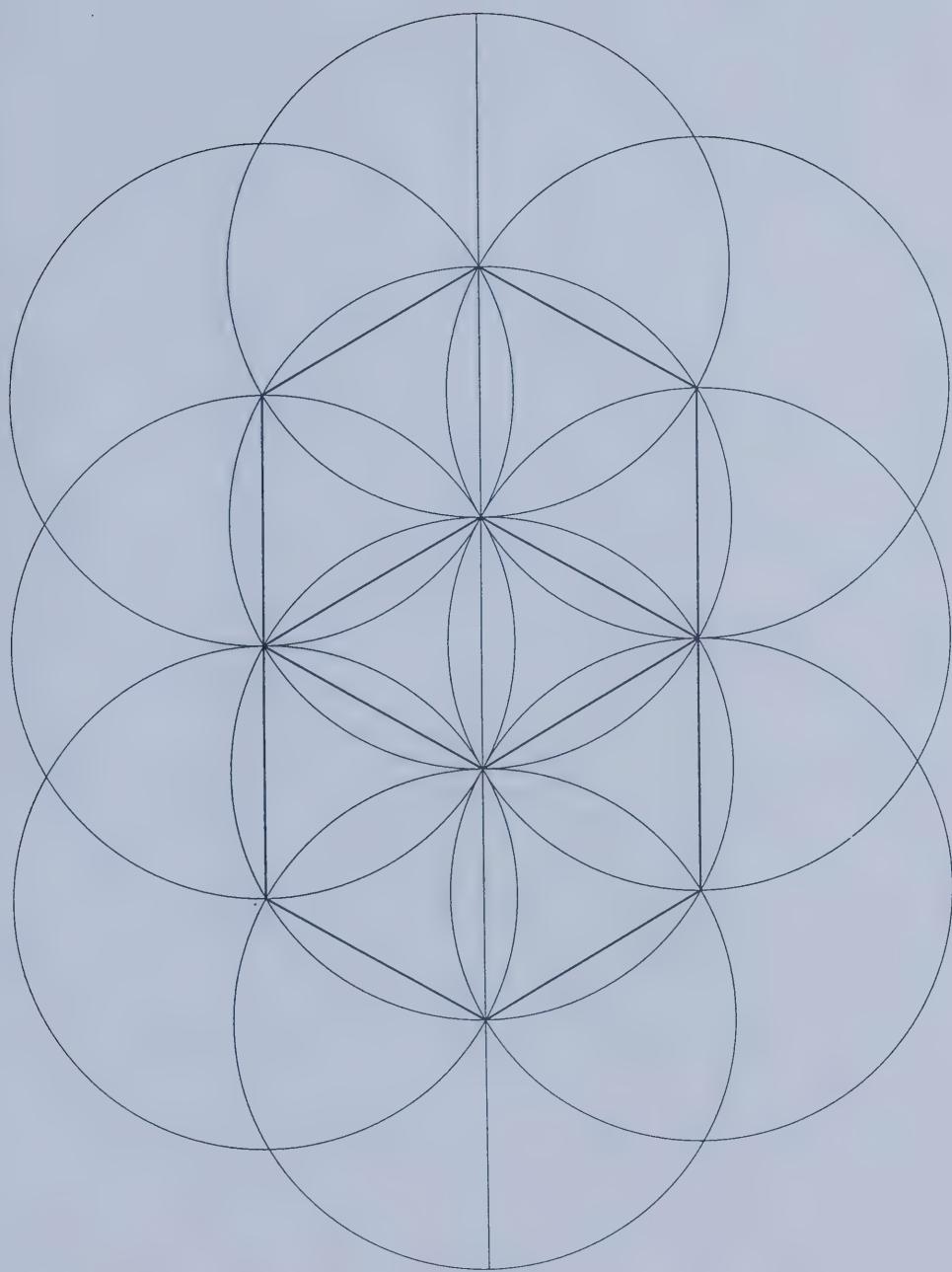




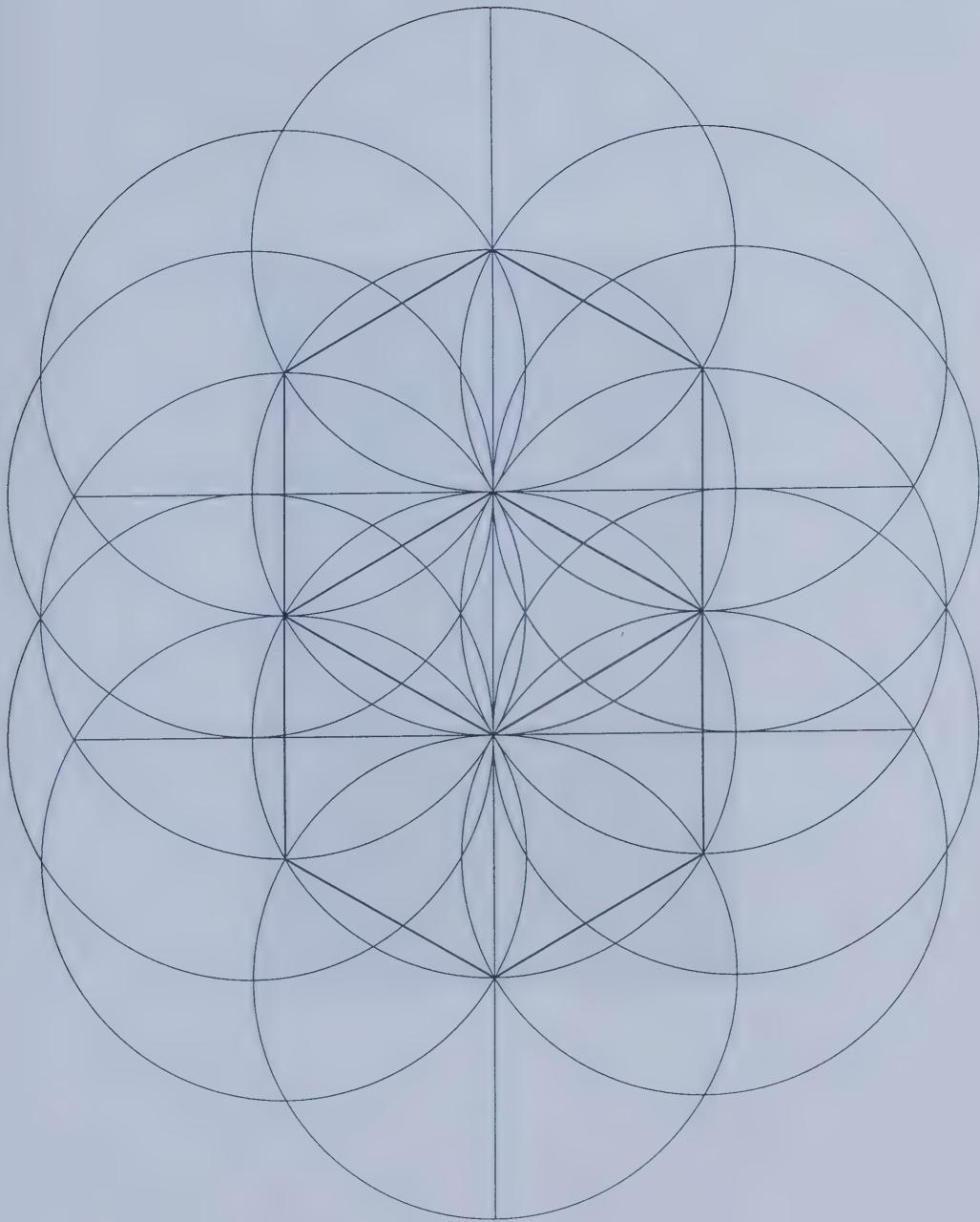




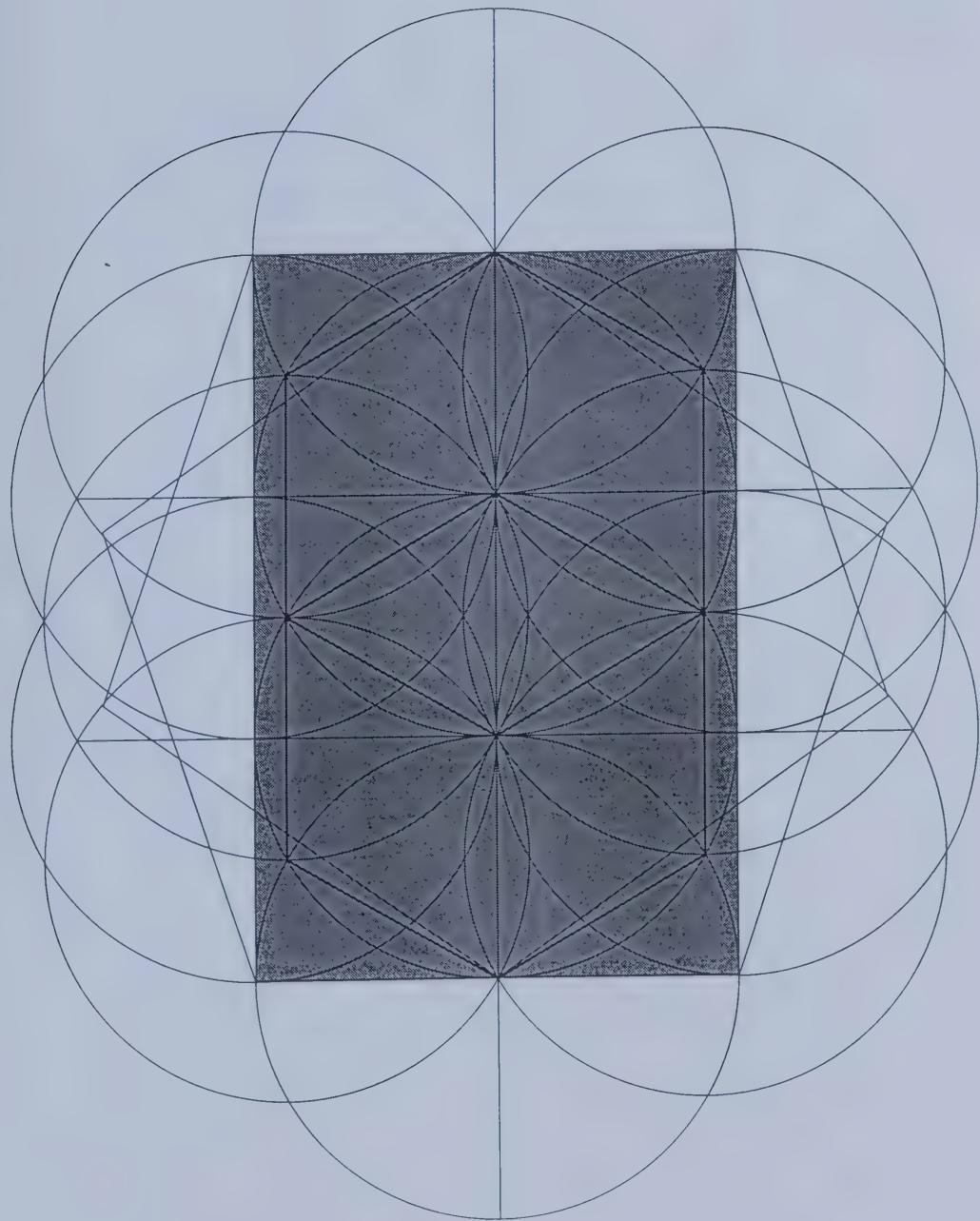




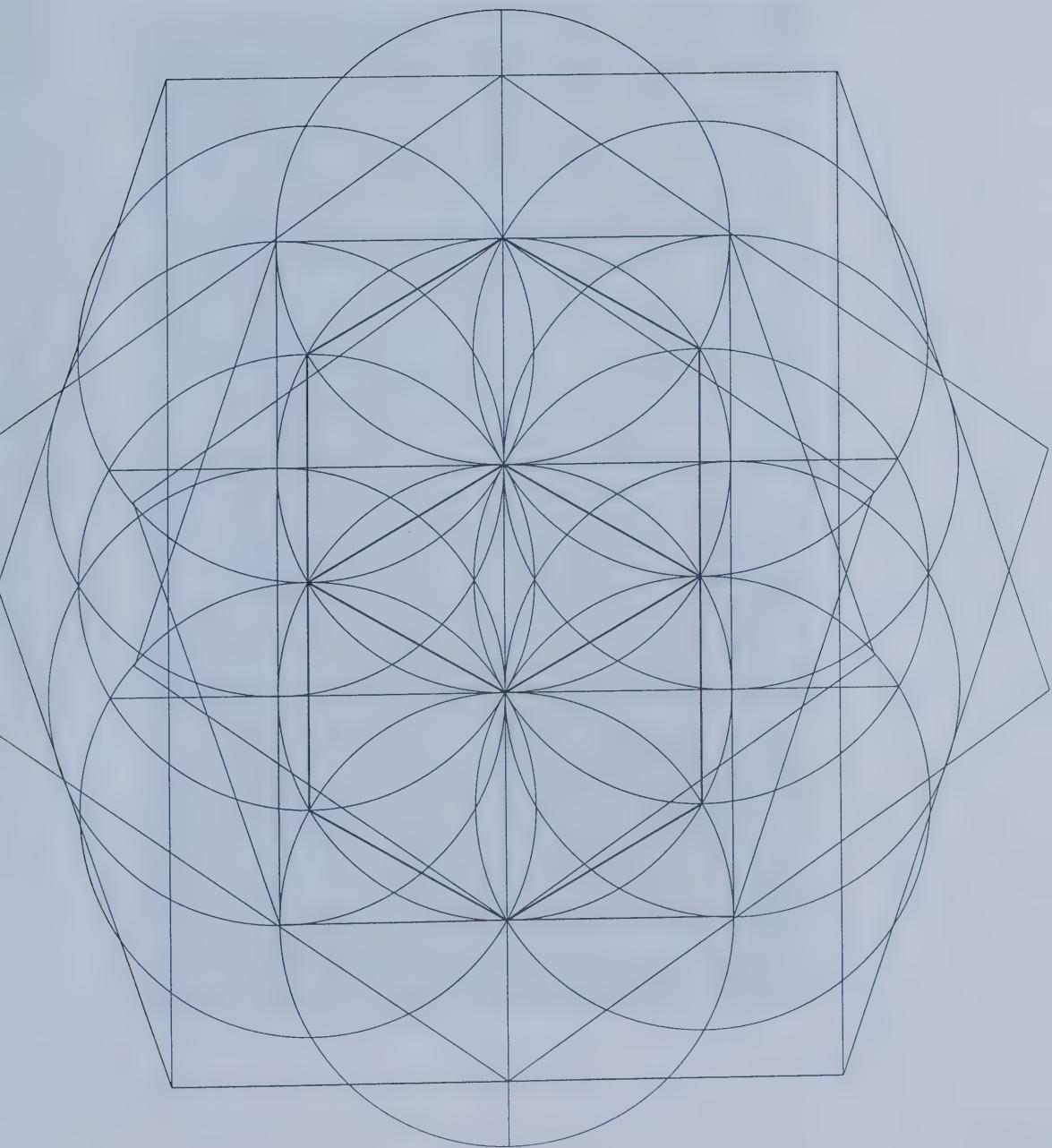




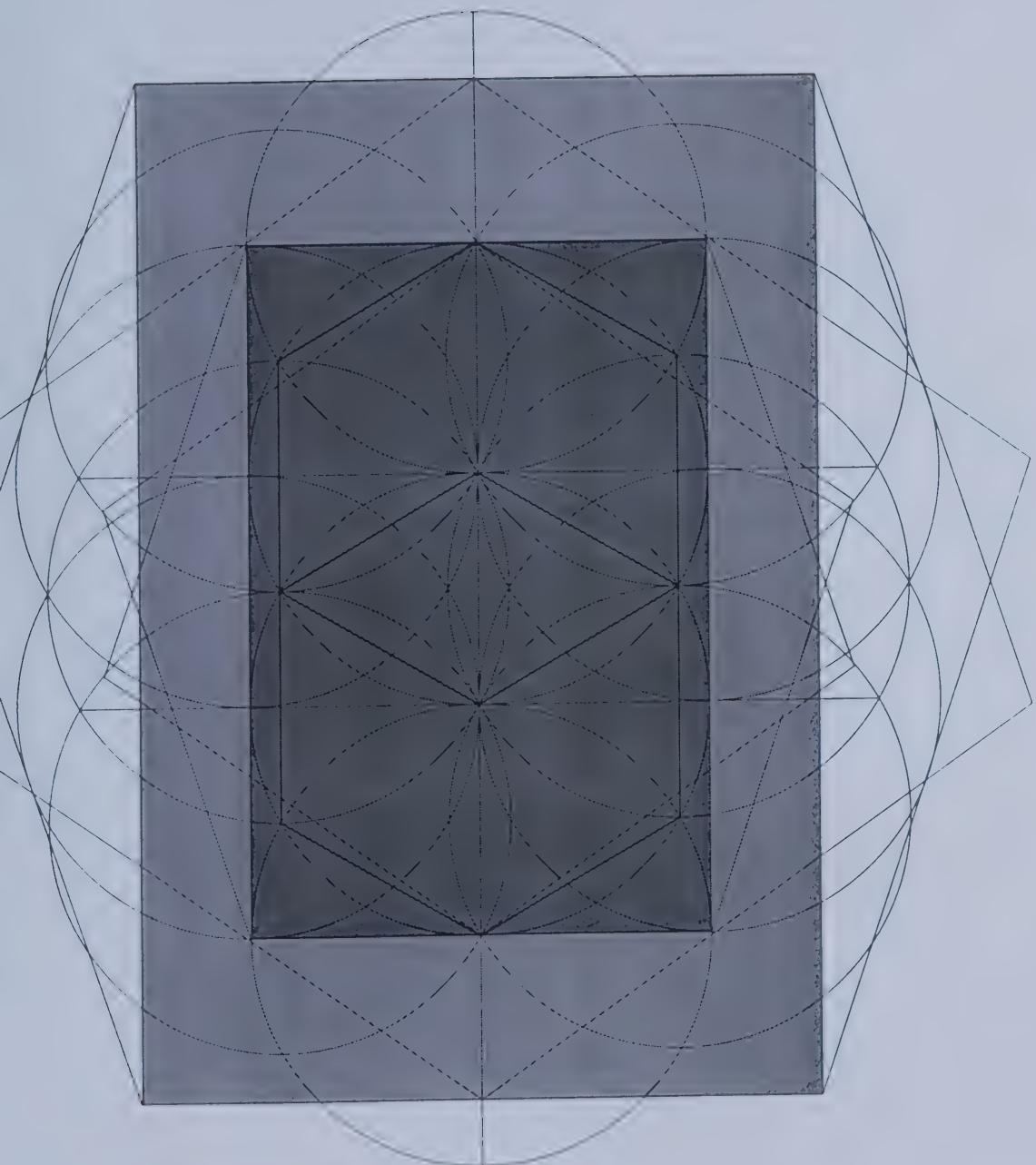




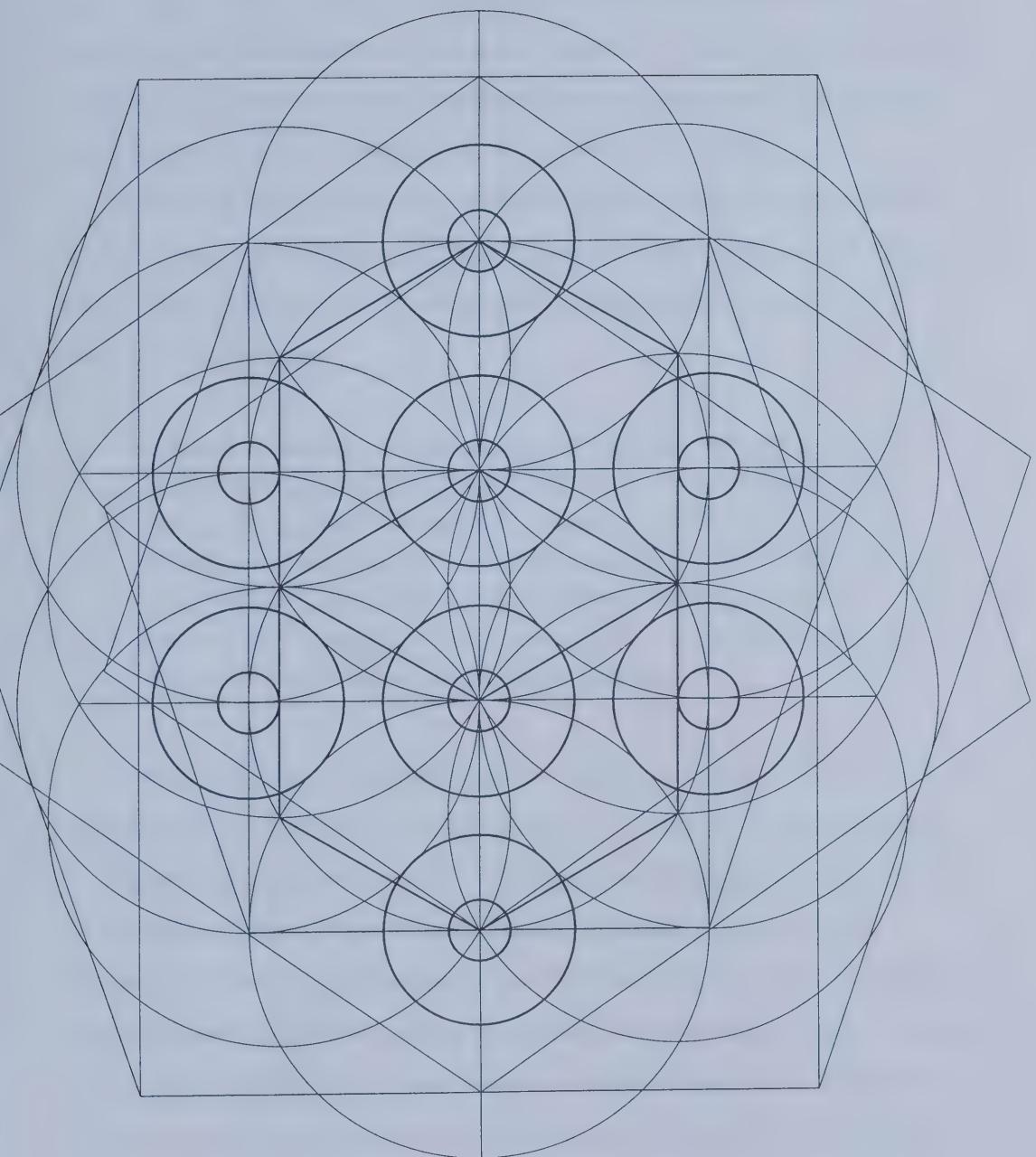














However, in correlating the medieval concept of *manifestatio* to the ideological manifestations of Jan Tschichold and Josef Mueller-Brockmann, the medieval ideological situation cannot be correlated to the ideological situation of the mid 20th century. The medieval concept of *manifestatio* was based on two basic notions: that a rigorous system constitutes an independent arena of thought that has the capacity to construct a space in which one may contemplate the existence of God; and, that God exists.

These two notions created for the medievals a relatively stable ideological situation. It is, however, not possible to assume such a stable ideological situation for Tschichold and Mueller-Brockmann. Eco sees this problem as extending into the context of contemporary aesthetics:

Contemporary aesthetics is interested in the extent to which our experiences of art determine our aesthetic experiences in general. For medievals this problem did not arise. The suspicion that natural objects appear beautiful to us because of some analogy with art can be sustained only in a world without God. If God exists, aesthetic pleasure in an object does not require any reference to the products of human artistic endeavor; the object is rather a product of divine workmanship, and indubitably so.<sup>75</sup>

The ideological situation for Tschichold and Mueller-Brockmann, was one in which the relationship between the human world and the divine could not be definitively stated.

However, this does not mean that the concept of *manifestatio* has no relevance. Contemporary aesthetic forms are descendants of the aesthetic forms of the past. Therefore, residues of these previous forms may still exist in the geometric composition of Tschichold's and Mueller-Brockmann's typographical methodologies. However, to what extent then does the concept of *manifestatio* still reside in the geometric compositions of Tschichold and Mueller-Brockmann, in terms of a relationship between 'the means of

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<sup>75</sup> Eco, p. 226.



clarifying' and 'what is being clarified'? Clearly 'what is being clarified' can no longer be assumed to be God. Rather, it is the ideological motivations of Tschichold and Mueller-Brockmann that take on the role of 'what is being clarified' and in doing so replaces the position that the divine previously held in the medieval concept of *manifestatio*. Furthermore, the typographical methodologies of Tschichold and Mueller-Brockmann utilized different forms of geometric composition to effect this replacement.

The assumption that their typographical methodologies retain, in some form, the medieval concept of *manifestatio*, through their specific development of geometric composition, points to the question of how their geometrical compositions reflected these different ideological manifestations.



## Chapter 3

### The Ideological Nature of the Geometric Composition of Jan Tschichold: Ideological Manifestation

In the previous chapter, it was shown how, through the concept of *manifestatio*, medieval geometric compositions manifested an ideological position. It was also shown, because of the differences of the conceptual context, that it is not possible to directly link *manifestatio* to the typographical activities of Tschichold and Mueller-Brockmann. However, in the following chapters, discussed will be how, through certain conceptual transformations, the typographical methodologies of Tschichold and Mueller-Brockmann can be shown as being indicative of the presence of *manifestatio*. This chapter will explore the conceptual transformations of *manifestatio* which are present in the typographical methodology of Jan Tschichold.

As noted earlier, the traditions which Tschichold was especially keen on conserving were those which originated from the Renaissance and Baroque periods. The geometric compositions of Renaissance and the Baroque art differed dramatically from those of the Medieval period. This difference was described by Charles Bouleau in his book *The Painter's Secret Geometry*. In it he wrote:

In the Middle Ages, composition was generally based on one of the Pythagorean figures: it followed out the complex design of this figure even to its minutest requirements, though often concealing it from profane eyes. The golden proportion was arrived at, nearly always, with the help of the pentagon, which contains it in all its parts.<sup>76</sup>

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<sup>76</sup> Charles Bouleau, *The Painter's Secret Geometry*, trans. Jonathan Griffin (New York: Hacker Art Books, 1980), p. 130.



The medieval fixation on complex geometric structures was based on their attempt to define an understanding of the intricate nature of divine order. However, during the Renaissance a conceptual shift occurred. Complex geometric structures were abandoned because it was felt that they were too restrictive:

... to artists these polygons, these scientific constructions, came to seem more and more irksome, and soon all they retained of the golden section was a manner of distributing lines and surfaces in harmonic relationships without troubling to follow out a geometrical figure. This is the whole difference between a medieval composition and, for instance, one of Vermeer's.<sup>77</sup>

The difference between Renaissance/Baroque and medieval geometric composition was more than a mere shift in style. It indicated a difference in the world-view. Fundamental to this difference was the development, during the Renaissance, of the humanist movement, particularly the scholarly aspect of humanism which transformed the medieval concept of *manifestatio*, in part through a transforming of medieval scholasticism. In so doing Renaissance humanists radically altered the nature of geometric composition.

The targeting of medieval Scholasticism by the humanists has been noted by Fredrick Artz in his book *Renaissance Humanism 1300 - 1500*:

In secondary education, the Humanists rejected the great rigid and closed systems of Scholastic thought, and substituted for them a knowledge derived from concrete and worldly experience. Humanism thus stimulated critical attitudes, and freed minds which refused to be bound by old systems and were prepared to accept new ideas and new experiences. The Humanists

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<sup>77</sup> Ibid.



helped to lessen the ecclesiastical monopoly of learning, and challenged philosophy to deal with practical subjects, especially with ethics.<sup>78</sup>

The critique by the humanist movement of medieval Scholasticism is important in that it was Scholasticism which developed the concept of *manifestatio*.

However, the objective of the humanist movement was, as already indicated, transformation and not complete rejection. As Charles Trinkaus notes, although the humanist movement brought a new conception of the world-view, it was in fact an activity which extended from the work of the Scholastics:

Thirteenth-century scholasticism, nourished by the translations from Arabic and Greek and centered in the universities, did, indeed lay the foundations of systematic, orderly, logical, and internally self-correcting thought, establishing the principal communities of organized intellectual activity that together have been so vital in highly organized, scientifically oriented modern civilization. By mid-14th century, when the humanist movement was on the threshold of a rapid and solid development, university-centered intellectual activity and professional research and training were already well-established, powerful institutions and enduring elements of culture.<sup>79</sup>

What the humanist movement sought was a reformulation of the Scholastic intellectual framework. The motivation for this reformulation was in the humanist movement's desire to include a new focal point - the dignity of man. The intent was, as Trinkaus and Artz have shown, to create an intellectual reformation.

Trinkaus's position is found in the following:

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<sup>78</sup> Fredrick B. Artz, *Renaissance Humanism 1300 - 1500* (The Kent State University Press, 1966), pp. 89 & 90.

<sup>79</sup> Charles Trinkaus, *The Scope of Renaissance Humanism* (Ann Arbor: The University of Michigan Press, 1983), p. 3.



Particularly relevant is the often exalted conception of both the earthly achievements and the heavenly destiny of man that evolved among the humanists. It is quite clear that, while the humanists could not and did not separate their philosophies of man from the Christian revelation of his ultimate destiny, the tendency from the mid-Quattrocento on was to view human destiny as exclusively and ineluctably heavenly and glorious. Instead of an emphasis on the human in place of, or in preference to, the divine, there was a decided tendency to emphasize not only that human dignity rested in the fact that man was created in the image of God but that the perfection of humanity would be realized in equality with divinity.<sup>80</sup>

Artz held the view that

The Italian Humanists of the fifteenth century did not restrict themselves merely to obtaining a better grasp of the Greek and Latin classics, but they ensured that their newly-won knowledge affected every branch of learning. From medicine to mathematics and from theology to law, no field was left untouched. But Italian Humanist influence went beyond the worlds of learning. It colored the whole mode of living. It led to a new idea of the dignity of man.<sup>81</sup>

This new intellectual focus, the dignity of man, altered the focus of the basic structure of the Scholastic intellectual enterprise (*manifestatio*). *Manifestatio* had relegated human presence into a passive position, regarding merely that which existed beyond itself (the divine). This role for humanity was unsuitable to the humanist movement. ‘What was being clarified’ was no longer presence of the divine; rather, ‘what was being clarified’ was the presence of humanity.

Thus, the task of the humanist movement was an attempt to reform the intellectual framework of the Scholastics so that it could clarify the role of humanity. According to

<sup>80</sup> Ibid. p. 29.

<sup>81</sup> Artz, p. 51.



Trinkaus, a significant achievement of the humanist movement was in providing an intellectual framework that emphasized the needs of humanity (as opposed to providing an abstract vehicle for divine contemplation):

There is more to humanism than is revealed in a historical consideration of the intellectual and professional activities of the humanists, more also than the extensive additions to western European knowledge of ancient Latin and Greek culture contributed by the humanists through their "second revival of learning." Almost to a man the humanists regarded themselves, or their studies, more as a general contribution to the well-being of mankind than supplying an expert, encyclopedic knowledge of antiquity.<sup>82</sup>

For Artz, the significance of the humanist movement was in its emphasis on human ethics:

The Humanists introduced the idea of a lay morality which laid stress on ethical conduct as an end in itself. This ideal of lay morality came in alongside the old clerical and monastic views of life. The Humanists increased the sense of the dignity of man and emphasized what man can do for himself, an idea partly derived from the restudy of Greek Fathers of the Church, as Clement of Alexandria and Gregory of Nazianzus.<sup>83</sup>

What the humanists attempted to establish was a conceptual framework which was focused on the clarification of the role of humanity through intellectual contemplation. How the humanists accomplished this is outlined by Trinkaus in his description of what he sees as being the four essential aims of humanism:

... the humanists, beginning with Petrarch, sought to bring about and, in fact, accomplished four essential aims: First, they wished to establish literary

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<sup>82</sup> Trinkaus, p. 25.

<sup>83</sup> Artz, p. 88.



and historical scholarship (the humanities) as a respectable and valued learned profession with a place in the scheme of higher education and organized intellectual activity. Second, they wished to assert the importance of their kind of studies in the education of the layman, as distinguished from the highly trained professional; as professionals themselves they wished to maintain a close and friendly relationship with the educated laity. Third, and closely connected with the second aim, they wished to claim for their disciplines a special moral and civic importance by the eloquent presentation of broad truths of human experience as gathered from the study of literature and history and from esthetic inspiration. Moreover, this moral vocation might best be effected through the active employment of their particular learned skills in the service of the community or the body politic. Fourth, they themselves possessed in varying degree a sense of historical and cultural identity, which they wished to propagate among others, feeling that men should be conscious of their own time and culture in relation to their own past traditions and to the cultures and traditions of other peoples and religions. Along with this went an insistence on the importance of an individual's own sense of identity and of his achievement, his striving after fame.<sup>84</sup>

Although the objectives of the humanists were quite different from the medievals, nevertheless the basic structure of the medieval concept of *manifestatio* - the relationship between 'what is being clarified' (the dignity of man) and the 'means of clarifying' (rigorous literary and historical scholarship) - was maintained.

However, a fundamental difference appears in the humanists desire to engage actively with the human condition. This difference manifested itself in the dynamics surrounding their intellectual activities. The humanists placed a great importance upon accessibility, considered essential because their vision was formulated on the premise that humanity must actively engage in the definition of their condition. Although human dignity was the focus for the humanist movement, accessibility provided its dynamic. The humanists envisioned an intellectual project that had human dignity as its objective. However, the

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<sup>84</sup> Trinkaus, p. 7.



actualization of this project required the participation of humanity. Accessibility allowed for the ideological manifestation of the humanist movement.

Thus the humanists transformed the medieval concept of *manifestatio* from being an introverted contemplation of the divine into a extroverted enunciation of the human. It retained the conceptual structures of the medieval concept but replaced its object of reflection. That is, the humanists believed, as the medievals did, that an ideological manifestation may be produced from an independent arena of rigorous thought. However, the humanists and the medieval Scholastics differed in their focus of ideological manifestation. Whereas the Scholastics ideal was the divine, the humanists ideal was the dignity of humanity.

The humanist transformation of the medieval concept of *manifestatio* into an ideological manifestation of human dignity can also be seen in Renaissance art, particularly in the theoretical work of Leon Battista Alberti. His theories embodied the objectives of the humanist movement in emphasizing the creation of an accessible aesthetic object (based on human proportions and compositional methods that relate directly to human space) that deals with issues which concern human dignity such as insight, emotion, and activity.

Alberti's theory enunciated a desire to create an accessible space for the presentation of the ideals of human dignity. In the ability of this constructed space to facilitate the "viewer to appropriate insight, emotion, and action", Alberti believed in the human viewer actively participating in the actualization of the ideals of human dignity, through an approach to composition involving a concept of geometric proportion. This conceptual approach differed dramatically from the medieval concept of *manifestatio* where the viewer was relegated into being a passive as opposed to an active observer. However, as with the scholarly humanist movement, Alberti's method utilized the basic structure and premises of medieval thought. His geometric compositions, as were the medieval geometric compositions, were based upon the intrinsic harmonies that geometry



constructs. His innovation was the simplification of these harmonies so that the viewer could easily comprehend them and, therefore, actively engage with them.

The basis of this innovation was in the use of musical harmonies as the primary source for finding the proportions for geometric compositions:

In chapter V [of Alberti's *De re aedificatoria*] Alberti explains that the musical intervals agreeable to the ear, the octave, fifth and fourth, correspond to the division of a string in 2, in 3, or in 4 (1/2, 2/3, 3/4). These proportions, known at the time as the *diapason*, *diapente* and *diatessaron*, will also serve as bases for the plastic arts.<sup>85</sup>

These proportions were significant in that they represented, for Alberti, a known and accessible harmony. By using these proportions, it was possible to present to the viewer a pictorial space which demonstrated a sense of order. By simplifying, given was a presentation of order that could be actively engaged. The fact that this order was 'harmonic' meant that the viewer was able to participate as a human in a 'universal' measure. Therefore, what Alberti's geometric composition presented was a space which advocated, by its harmony and accessibility, the ideal of human dignity in which a human could find comfort in being human. The purpose of harmony was not as the medievals had sought to demonstrate divine order, but, rather, to create a space which resonated with human sensibilities.

Interestingly, Tschichold, as well, advocated the use of two of the proportions given by Alberti - the *diapente* (2/3) and the *diatessaron* (3/4):

The two major proportions of 2:3 (octavo) and 3:4 (quarto) form a sensible couple, like man and wife. The attempt to push them aside with the help of

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<sup>85</sup> Bouleau, p. 82.



so-called normal formats, which use the hybrid ration of 1:[1.414], goes against nature, like the wish to cancel the polarity of the sexes.<sup>86</sup>

Tschichold's interest in the 2:3 and 3:4 proportions was that they represented, for him, formats which demonstrated an inherent relationship to each other. Tschichold shared the belief with Alberti that certain proportions are intrinsically harmonious. He also shared Alberti's interest in using musical harmony as an ideal for his typographical compositions. This is noted by Robert Bringhurst in his discussion about Tschichold's use of the words *Harmonie* and *Takt*:

It was . . . his ambition to make visible the music of the spheres. *Harmonie* and *Takt* are words that appear repeatedly in some of these essays. The latter is often translated, correctly, as tact. But the German word has connotations which its English cognate lacks. *Takt* means measure, rhythm, time in the musical sense. A *Taktstock* is a conductor's baton. When Tschichold speaks of 'harmonically perfect margins' or of 'part-title pages in the same key as the text page,' and when he says that true book design 'is a matter of *Takt* alone,' it is well to remember that the author of these phrases was born and raised in the shadow of Bach's Johanniskirche. Tschichold played no instrument himself except the typecase and the pencil, but these musical analogies are not sweet turns of phrase or platitudes; they reach deep into the craft.<sup>87</sup>

The ideal of harmony extended into the details of both Alberti's and Tschichold's method of composition. In their compositional methods, the placement of interior shapes were designated by diagonals based on the proportion of the format. Since their construction was determined by a harmony (the proportion of the format), by using

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<sup>86</sup> Tschichold, p. 39.

<sup>87</sup> Ibid. p. xii.



diagonals a position was defined which was harmonically correct. Alberti's method is shown in plate 24 (p. 80) and Tschichold's method is shown in plate 25 (p.81).

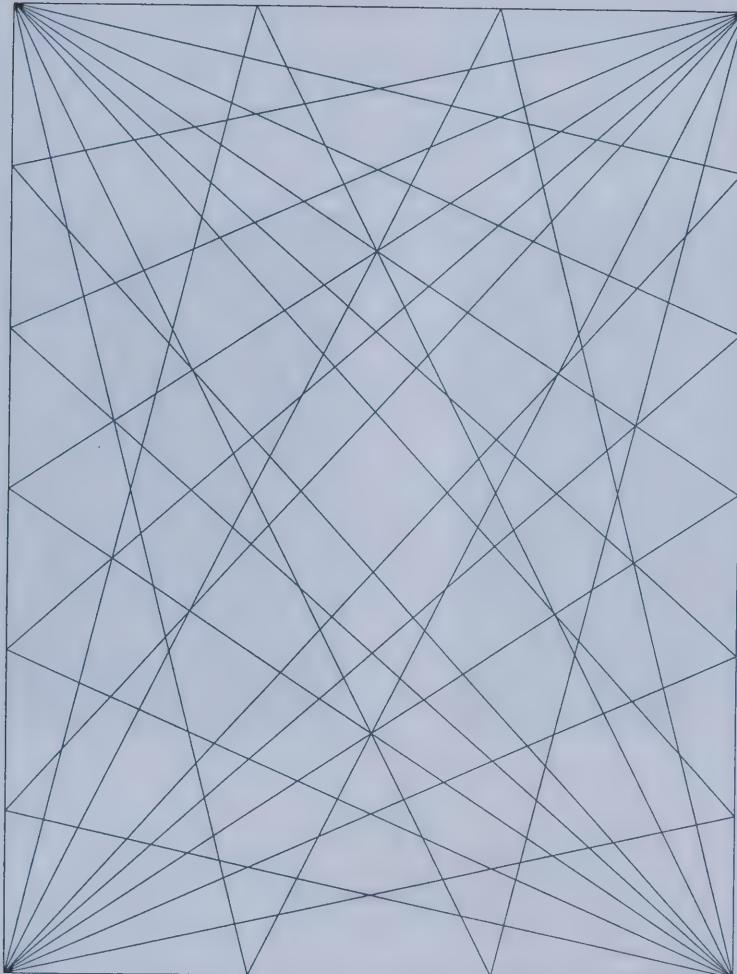
This method of finding positions which are harmonically in line with the format is indicative of the relationship of Alberti's and Tschichold's geometric composition to the medieval method of geometric composition. The medieval concept of *manifestatio* gave to geometric composition an independent authority to enunciate an ideological position. Specifically, geometric composition was a recognized 'means of clarification' of 'what was being clarified'. Likewise, Alberti and Tschichold believed in its ability to act as a 'means of clarification'. Geometric composition, for both of them, could enunciate independently a harmoniously constructed space. Therefore, it can be seen that Alberti's and Tschichold's usage of geometric composition were closely related to medieval usage.

However, as with the humanist's transformation of the concept of *manifestatio*, Alberti's and Tschichold's geometric compositions deviated from the medieval geometric composition. Unlike the medievals, Alberti and Tschichold intended their use of harmony to construct a space in which the viewer would actively participate in the determination of its aesthetic experience. This constructed space was extremely important for humanist ideals. It was a space which actualized human dignity.

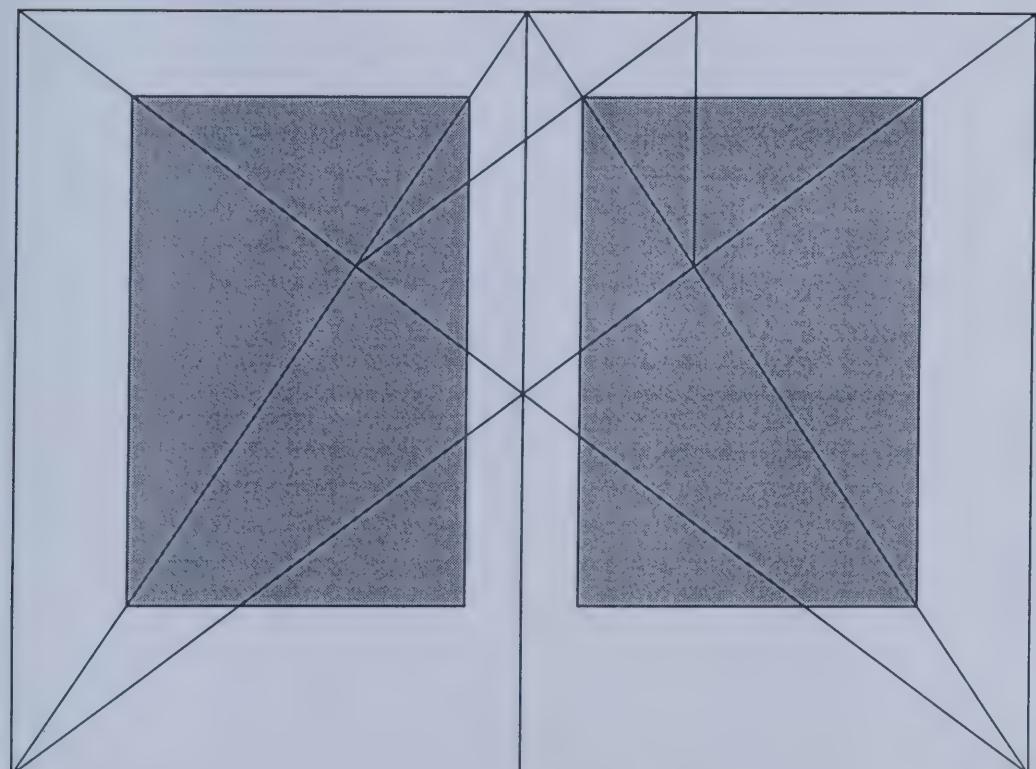
Tschichold's belief in this capacity of geometric composition was so deep that he provided a method, based on strict harmonic derivations, from which all his typographical texts were to be set. The basic structure of this method is shown in plate 26 (p.82).

From this method, the size of type area is determined. Furthermore, not only does this method produce a type area which is of the same proportion to the page, it also provided a means to construct a type area which has been placed in the most harmonically suitable position. For Tschichold, this method of geometric composition was so 'perfect' in its abilities that it became a formal canon:



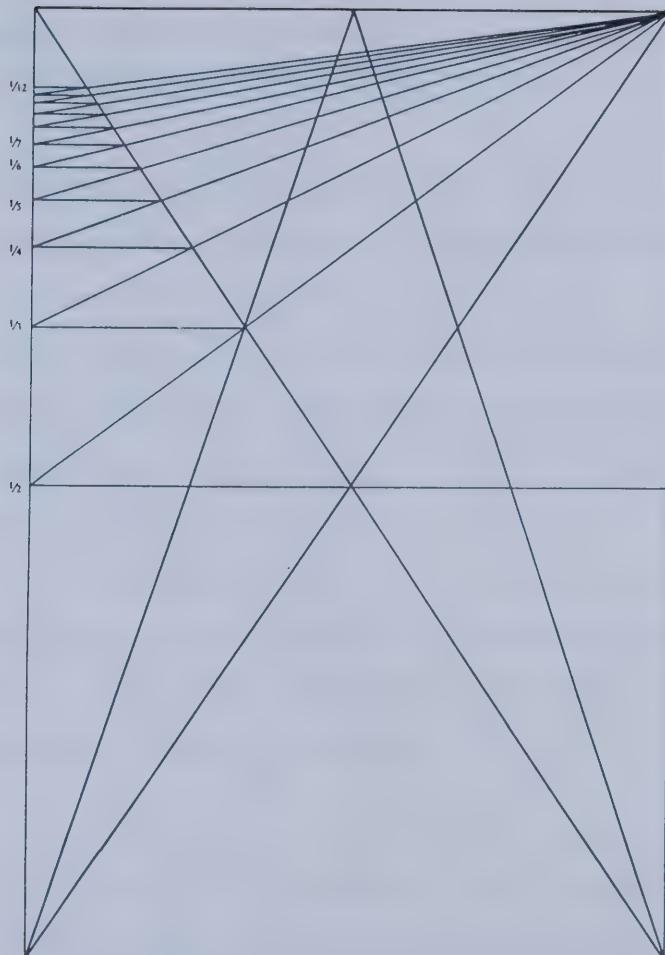






<sup>82</sup> Ibid. p. 47.





<sup>83</sup> Ibid. p. 49.



Harmony between page size and type area is achieved when both have the same proportions. If efforts are successful to combine page format and type area into an indissoluble unit, then the margin proportions become functions of page format and overall construction and thus are inseparable from either. Margin proportions do not dominate the page of a book. Rather, they arise from the page format and the law of form, the canon.<sup>90</sup>

The supremacy of this canon for Tschichold is demonstrated by how he introduced illustrations into the type area. Illustrations, according to Tschichold's typographical methodology, were not to be a determining factor of the type area but were to be placed within harmonically determined proportions. How this was accomplished can be seen in plate 27 (p. 84). The illustrations, at their maximum size, were set within the constraints of geometric composition. Their dimensions were held to be subordinate to harmonic dimensions of the type area. By doing so, the harmony of the geometric composition was maintained. This was asserted by Tschichold, "The desire to keep type area and maximal image size the same is just and can certainly lead to a harmonious book form."<sup>91</sup>

However, it was also asserted by Tschichold that on no account were the illustrations to be trimmed to suit the geometric composition:

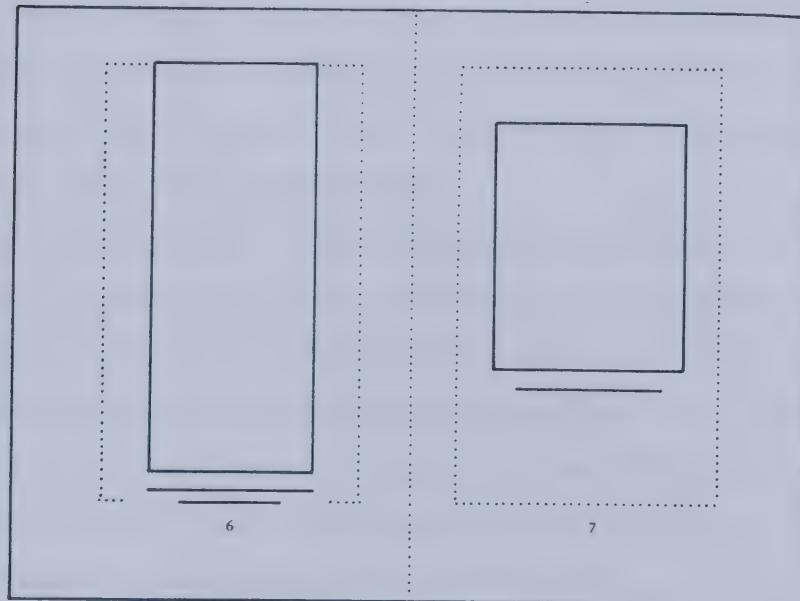
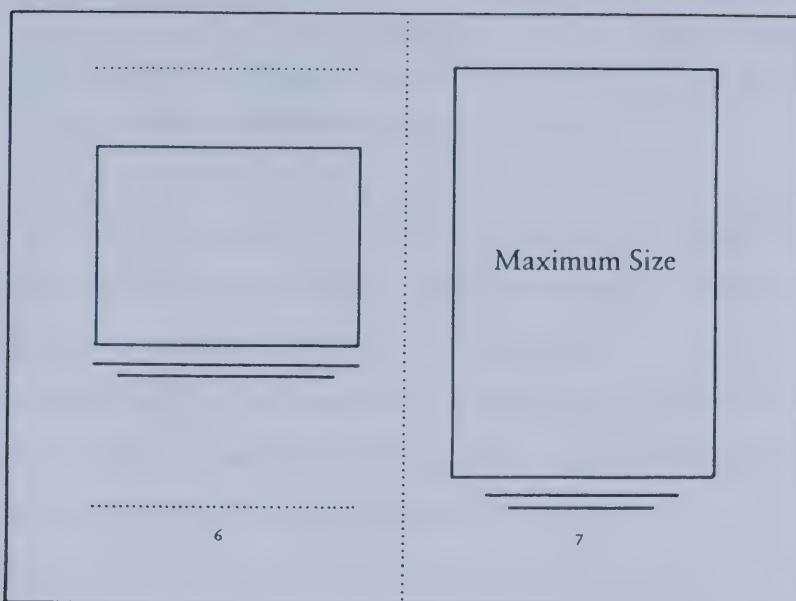
Generally, but especially with works of art, the original image proportions should be retained. It would be a mistake to alter them merely for the sake of completely filling a type area. It cannot be demanded, therefore, that pictures always fill the height and width of the space available. If all the pictures have the same proportions, then the height of the type area is determined by the pictures, naturally without forgetting the captions beneath the plates.

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<sup>90</sup> Ibid. p. 42.

<sup>91</sup> Ibid. p. 138.





<sup>86</sup> Ibid. pp. 144 & 145.



Pictures of paintings and other works of art must never be trimmed. Because even the last millimeter in a picture has meaning, a platemaker may trim away only what is absolutely necessary. (Plates that require trimming must be a full 3 mm larger on the sides to be trimmed.) A work of art will be disfigured if it is presented in abbreviated form.<sup>93</sup>

This reticence in altering illustrations underlines the desire of Tschichold to present a typographical object which was extremely respectful of the reader. No information that may be vital for the reader's comprehension should be removed.

However, the fact that the illustrations were subordinate to the geometric composition indicates that, for Tschichold, the primary conveyer of his respect for the viewer was the harmonic proportions of geometric composition.

Furthermore, this harmony was intrinsic in the creation of the ideal that Tschichold called 'perfect typography', which was, for him, the primary task for the individual typographer. For Tschichold 'perfect typography' entailed the production of a typographical object in which idiosyncratic expression was suppressed in order to allow for the expression of the typographical material.

The 'perfect typography' of Tschichold, based upon a strict adherence to geometric harmonies, correlates with the ideals of the humanist ideal in that its objective was the formulation of a rigorous construction accessible to human sensibilities. By suppressing any idiosyncratic expression, which he saw as being visual interference, Tschichold allowed the reader full access to the expression of the typographical material. This accessibility created an arena in which the reader could actively participate within a universal order, thus recognizing the value of human dignity.

This 'active participation' was Tschichold's ideological motivation. Although his primary objective was the creation of a typography based upon his standard of beauty, this standard was ideologically based. He envisioned his typography as functioning within a

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<sup>93</sup> Ibid.



society where conventions and traditions were intrinsically present. The manifestation of these conventions and traditions was concretized in the production of a harmonically correct geometric composition.

Tschichold's typographical methodology was rooted in his belief that, through a proper (harmonious) construction, geometric composition had the independent ability to manifest his ideals ideologically. His belief was so profound that he proposed a canon for geometric composition within which his typographical methodology created a means from which a certain type of harmony could be obtained. Harmony, for Tschichold, was a situation in which the formal elements of typography were presented as a cohesive whole and were not visually intrusive, so that readers could be presented with a typographical object that was accessible. By being both harmonious and accessible, the geometric composition of Tschichold's typographical methodology provided an arena in which the reader could participate in a manifestation of human dignity. Hence, Tschichold's geometric compositions were an instance of ideological manifestation, although a transformation, illustrative of the medieval concept of *manifestatio*.



## Chapter 4

### The Ideological Nature of the Geometric Composition of Josef Mueller-Brockmann: Ideological Manifestation

Josef Mueller-Brockmann's typographical methodology, as well, illustrates, again in a transformative nature, the medieval concept of *manifestatio*. However, whereas Tschichold's ideal described the role for humanity as a harmonious participation within historical conventions and traditions, Mueller-Brockmann defined his ideal upon a different dynamic. From his observations of early 20th century avant-garde movements - de Stijl, Russian Constructivism and Cubism - Mueller-Brockmann recognized the possibility for rational human innovation. That is, as opposed to being a participant within universal harmony, humanity could initiate a construction of a universal harmony. The ideal of construction, then, replaced the humanist ideal of participation.

Of particular interest for Mueller-Brockmann was the manner in which early 20th century avant garde painters used geometry as a pivotal factor of innovative construction. Geometry was seen as having a functional ability. However, in order to use geometry 'functionally', it was first necessary to obtain an understanding of geometry at a reduced and, therefore, workable state. Although these artistic movements had different interpretations of what were the specifics of this reduced state of geometry, they shared a belief that, from a relatively small set of geometric characteristics, a comprehensive and significant form may be built.

Fundamental to the building of this form was the idea that, in order to attain consistency, the procedures from this relatively small set of geometric characteristics must be rational. This idea was prevalent during the early twentieth century. An example of it can be seen in the work of the scientist Wilhelm Ostwald in his book *The Harmony of Forms*.



Ostwald developed a method of formal construction based on rational geometric procedures. By rational operations, this method sequentially constructs from a simple formal basis to a complex form. The consistency of this complex form is derived from the harmony of construction that is obtained through rational operations.

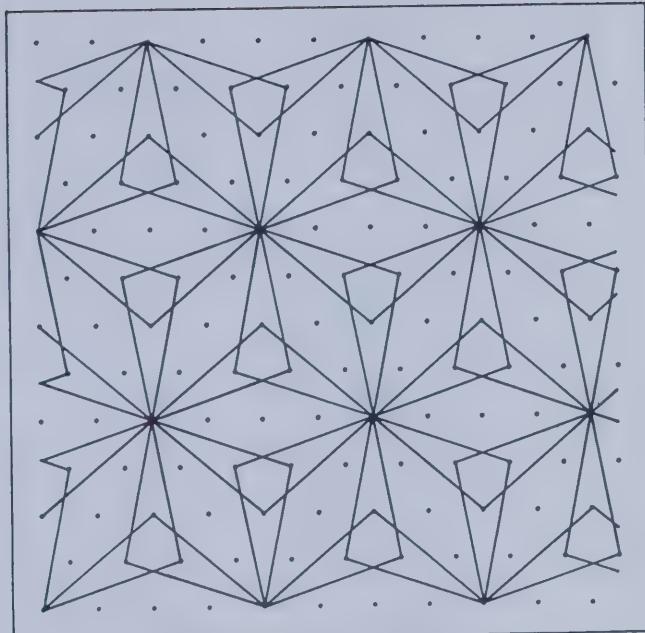
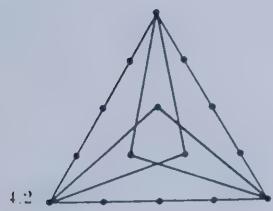
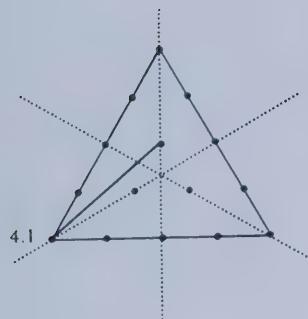
His method begins by defining a specific geometric plane of operations. This plane is composed by juxtaposing of specific regular polygons - the equilateral triangle, the square and the hexagon. These regular polygons are special in that, when placed side by side, they fill a plane entirely without leaving any remaining spaces. Thus, what Ostwald method has at its disposal are two geometric elements: a planar field composed of a specific regular polygon; and, a geometric unit of the field - the specific regular polygon which has composed the field.

On the unit of the field, an arbitrary mark may be made. By rotating this mark, according to the physical dimensions of the regular polygon (the triangle has 3 rotations, the square has 4 rotations and the hexagon has 6 rotations), a symmetrical shape is obtained within the unit of the field. Because the field is composed of identical units, this constructed symmetrical shape may be extended across its entirety.

What is obtained is a complex form which has been derived rationally from a simple formal basis. Plates 28 (p. 89) and 29 (p. 90) give an indication of what is possible with Ostwald's method of formal construction.

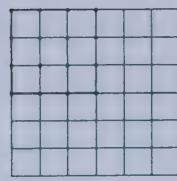
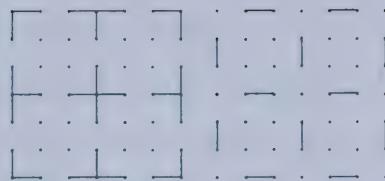
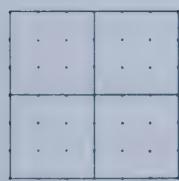
Ostwald's method of construction demonstrates how a dynamic construction can create a type of harmony. It accomplishes this task by creating a situation where rational procedures initiate and control a formal construction. Because these procedures belong to a homogeneous arena - geometry - a certain type of harmony is produced - the harmony of construction. In Ostwald's method, this situation is maintained by a strict adherence to two geometrical elements: a plane (field) and the regular subdivision of this plane (units). Thus, Ostwald's method acts as a regulative system for construction. It is, therefore, an example of how geometry may serve as the pivotal factor in innovative construction.



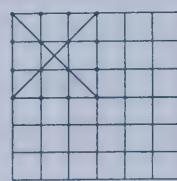
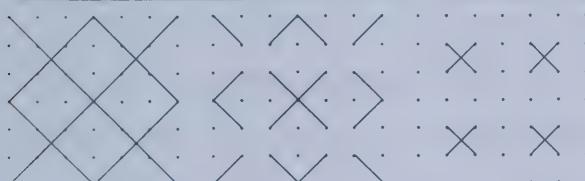
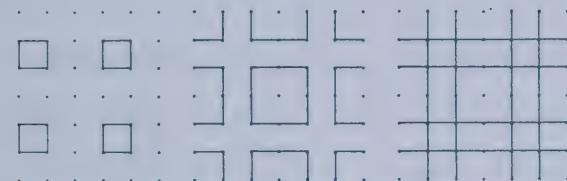


<sup>88</sup> Karl Gerstner, *The Forms of Color* (Cambridge, Mass.: The MIT Press, 1986), p. 78.

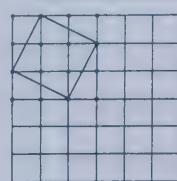
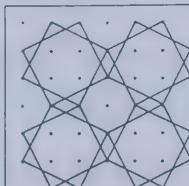


plate 29<sup>89</sup>

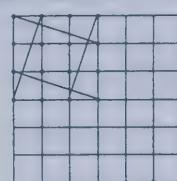
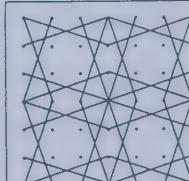
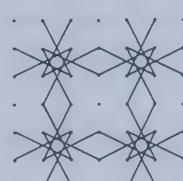
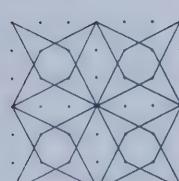
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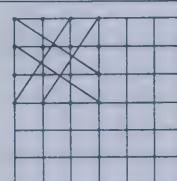
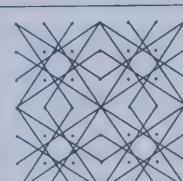
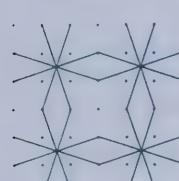
6.2



6.3



6.4



6.5

<sup>89</sup> Ibid. p. 83.



Another example of this idea can be found in the work of le Corbusier, a French architect of the early 20th century. He created a method of construction that he named 'the Modulor' which, as with Ostwald's method, was developed from the determination of a specific field which could be subdivided into particular units. The field of the modular was constituted by two parallel series of Fibonacci numbers,<sup>96</sup> which determined the subdivision into particular units. One of the series, which he designated as the red series, was composed of numerical values (of Fibonacci proportions) which were based upon human measurements. The other series, which he designated as the blue series, was composed of numerical values (of Fibonacci proportions) which were the double of the red series. By combining both series, le Corbusier obtained an infinitely expanding set of geometric proportions. Plate 30 (p. 92) is a representation of a portion of this set of geometric proportions.

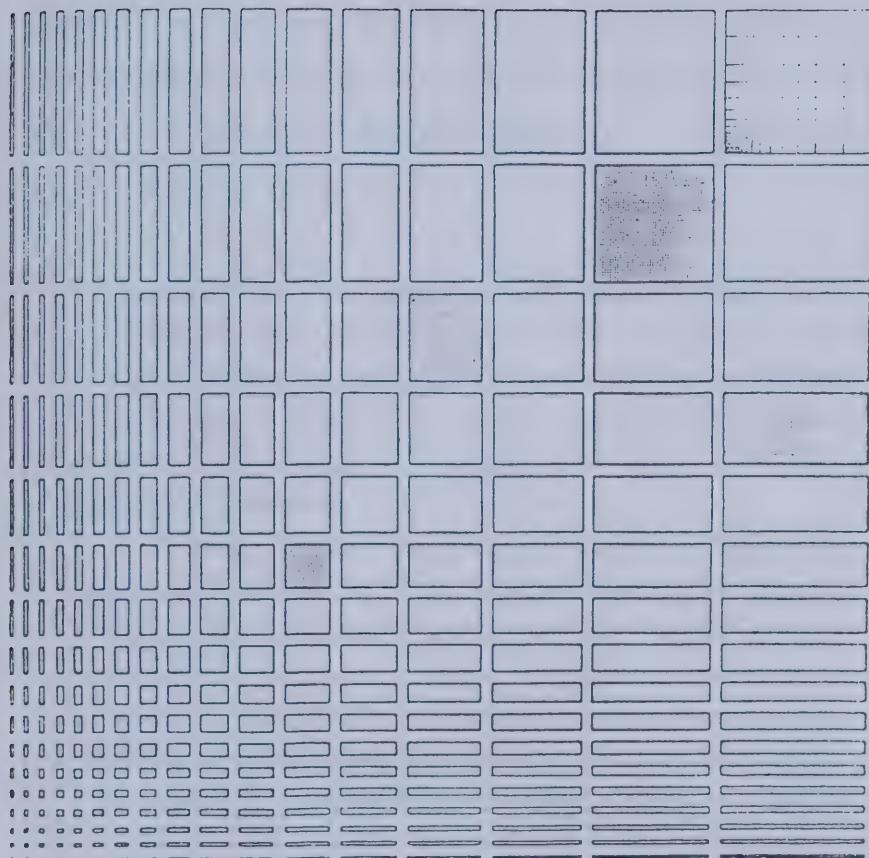
Le Corbusier felt these proportions were significant in that they were derived from human scale. What is of interest is that these proportions act as a basis for construction. Any one of them may be used as a guide for the size of any element and for their placement within a larger element. However, the selection of the size and the placement is determined by the human constructor; 'The Modulor' only supplies the set of possibilities. That is, 'the Modulor' acts as another type of regulative system for innovative construction.

What is of interest is the function that Ostwald and le Corbusier gave to geometry in their methods of construction. Although it governs the consistency of the form, the harmony of the form is actualized only by its use in human construction. That is, harmony is not given prior to the form (as in the musical harmony of the Renaissance or the divine order of the middle ages); harmony is derived during the formation of the form. Thus,

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<sup>96</sup> Fibonacci numbers are a special set of integers which, beginning with the number 1, are generated by the addition of the previous two numbers (1, 1, 2, 3, 5, 8, 11, 17, 28, 45 and so forth)..



plate 30<sup>91</sup>

<sup>91</sup> Charles Edouard Jeanneret-Gris, *The Modulor*, trans. Peter de Francia and Anna Bostock (London: Faber and Faber, 1951), p 89.



Ostwald's and le Corbusier's methods both developed arenas of activity which emphasized the constructive imagination of humanity by reducing geometry to being merely a provider of possibilities.

Mueller-Brockmann's typographical method of geometric construction corresponds to those of Ostwald and le Corbusier. He developed a methodology which utilized the relationship between a field and its subdivisions. In his case, the field was a regular grid and the subdivisions were the compartments which constitute it. Like Ostwald and le Corbusier, he saw this relationship as a regulative system. This designation is described by him in the following quotation:

The grid divides a two-dimensional plane into smaller fields or a three-dimensional space into smaller compartments. The fields or compartments may be the same or different in size. The fields correspond in depth to a specific number of lines of text and the width of the fields is identical with the width of the columns. The depths and the widths are indicated in typographic measures, in points and ciceros. . . .

By means of this division into grid fields the elements of design, viz. typography, photography, illustration and colour, can be disposed in a better way. These elements are adjusted to the size of the grid fields and fitted precisely into the size of the fields. The smallest illustration corresponds to the smallest grid field. The grid for a 1/1 page comprises a smaller or larger number of such grid fields. All illustrations, photographs, statistics etc. have the size of 1,2,3 or 4 grid fields. In this way a certain uniformity is attained in the presentation of visual information.

The grid determines the constant dimensions of space. There is virtually no limit to the number of grid divisions. It may be said in general that every piece of work must be studied very carefully so as to arrive at the specific grid network corresponding to its requirements.

. . . As a controlling system the grid makes it easier to give the surface or space a rational organization.<sup>98</sup>

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<sup>98</sup> Mueller-Brockmann, *Grid Systems in Graphic Design*, p. 11.



Furthermore, as with Ostwald's and le Corbusier's methods, Mueller-Brockmann's grid system emphasizes the constructive imagination of its user:

Such a system of arrangement compels the designer to be honest in his use of design resources. It requires him to come to terms with the problem in hand and to analyse it. It fosters analytical thinking and gives the solution of the problem a logical and material basis. If the text and pictures are arranged systematically, the priorities stand out more clearly.

A suitable grid in visual design makes it easier

- a to construct the argument objectively with the means of visual communication
- b to construct the text and illustrative material systematically and logically
- c to organize the text and illustrations in a compact arrangement with its own rhythm
- d to put together the visual material so that it is readily intelligible and structured with a high degree of tension.<sup>99</sup>

The constructive imagination of the user was an intrinsic ideal of the typographical methodology of Mueller-Brockmann. As it has been noted, what he held as an ideal for his formal ideology was the ability for humans to rationally innovate. However, innovation must be intelligible. Therefore, it must occur as a rational activity. By rational innovation, Mueller-Brockmann believed that humanity could contribute constructively to the conditions of their society:

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<sup>99</sup> Ibid. pp. 11 & 12.



... the systematic presentation of facts, of sequences of events, and of solutions to problems should, for social and educational reasons, be a constructive contribution to the cultural state of society and an expression of our sense of responsibility.<sup>100</sup>

Mueller-Brockmann proceeded in the manifestation of this ideological position by conceptualizing his typographical grid as a programme. This concept is described by Karl Gerstner, a practitioner of the same methodology as Mueller-Brockmann:

The typographic grid is a proportional regulator for composition, tables, pictures, etc. It is a formal programme to accommodate x unknown items. The difficulty is: to find the balance, the maximum of conformity to a rule with the maximum of freedom. Or: the maximum of constants with the greatest possible variability.<sup>101</sup>

The concept of the grid as a programme offered to its user the possibility of constructing a harmonious form. The actualization of this possibility, however, was the task of the user. That is, although the programme ensured the intelligibility of the typographical form, it was through its articulation by the user that the typographical form attained its harmony. Plate 31 (p. 96) gives a visual example of how Mueller-Brockmann constructed a grid as a programme.

The dimensions of this grid were determined by carefully calculating the typographical factors to be used: the sizes of the letter forms, the spacing between lines, the type of illustrations that may be used, etc. That is, the grid is formulated to serve a specific function - that the grid should serve as a field upon which units may be consistently deployed. These units are the elements of typography: the text(s), the illustrations, open

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<sup>100</sup> Ibid. p. 12.

<sup>101</sup> Gerstner, *Designing Programmes*, p. 33.



plate 31 <sup>96</sup>

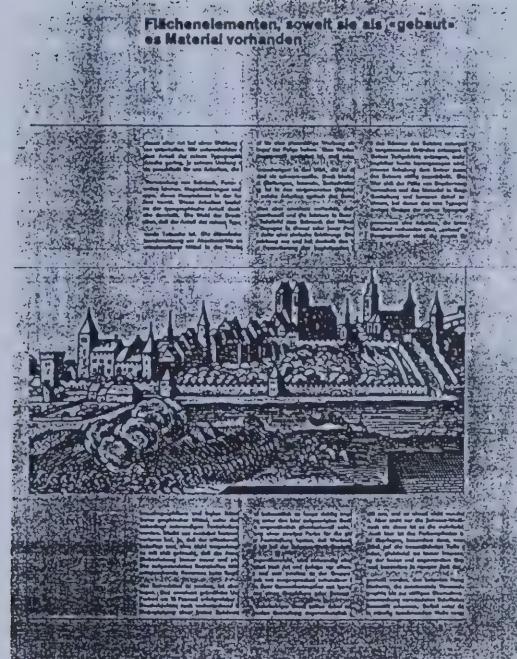
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<sup>96</sup> Mueller-Brockmann, *Grid Systems in Graphic Design*, p. 77.



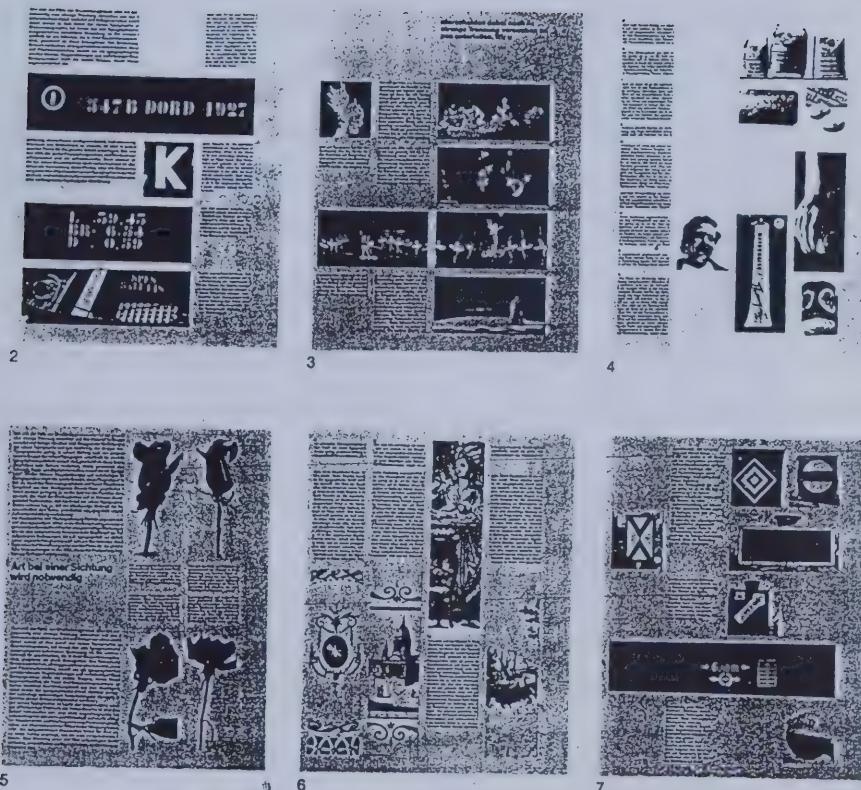
spaces, etc. Different deployments create different constructive harmonies. Some examples of possible deployments are the following:

plate 32<sup>97</sup>



<sup>97</sup> Ibid. p. 81.





These diagrams show how the grid functions as a regulative field and how the deployment of the elements of that field construct the typographical form. They also show

<sup>98</sup> Ibid. p. 85.



how the harmony of this form is dependent upon the constructive activity of the user of the typographical method.

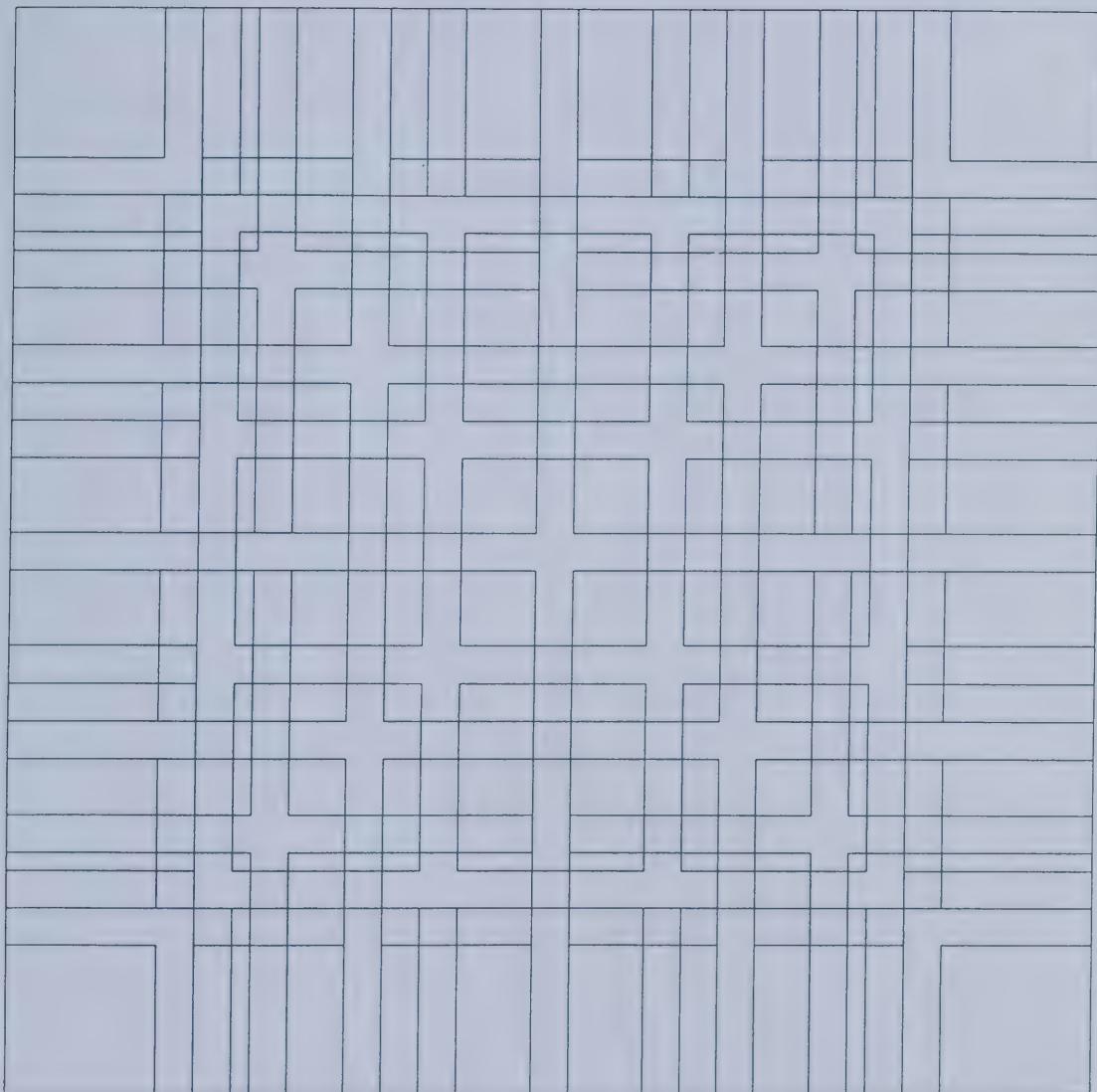
However, although the actual form itself becomes intelligible only when it has been articulated by this constructive activity, the grid is the primary determinant of the possibility of the typographical object. According to Mueller-Brockmann's geometric method of typographical composition, the formulation of the grid is of the utmost importance. It is what determines the nature of typographical expression. The complexity of the typographical expression is dependent on the complexity of the geometrical structure of the grid.

An example of an extremely complex typographical grid can be seen in Karl Gerstner's geometric field that he designed for the Swiss magazine *Capital* (plate 34, p. 100). Gerstner's grid looks extremely complex when initially seen. However, an analysis of it reveals its programmatic nature. It combines five layers of a regular grid field (plates 35 - 39, pp. 101 - 105).

Each of these layers sets an individual programme. The combination of these layers produces a meta-programme which creates a contrapuntal relationship. However, the grid in itself does not ensure a coherent piece of typography. In order to create an intelligible typographic form, the user must coordinate rationally all of the elements. The typographical expression is, then, the actualization of the intelligence and imagination of the typographer.

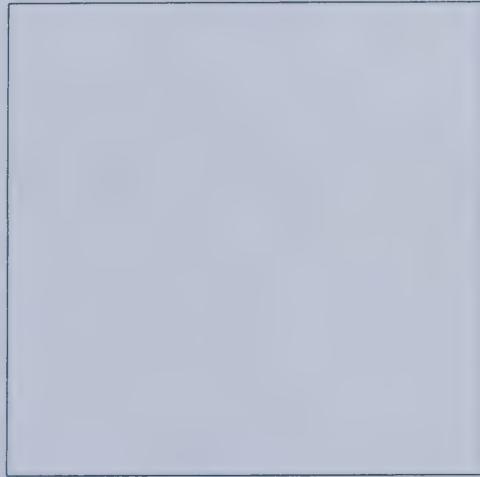
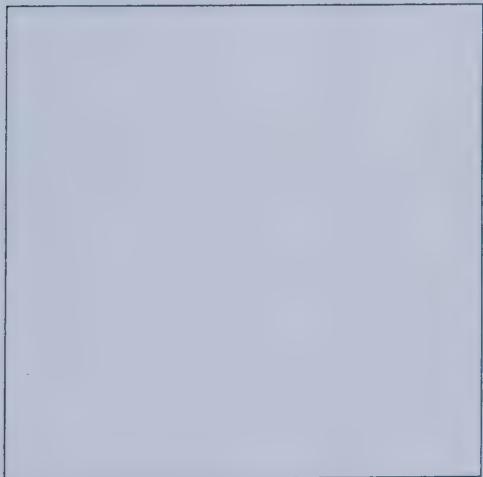
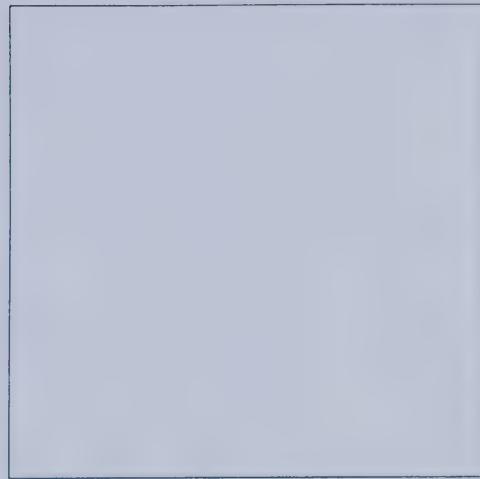
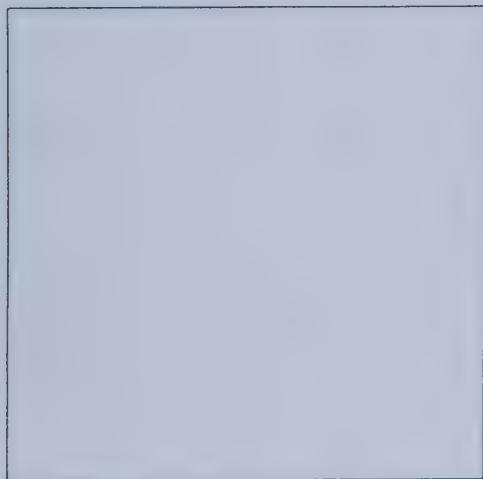
Although Gerstner's typographic grid is a later manifestation of the typographic methodology of Mueller-Brockmann, it epitomizes the importance of geometric composition. For Mueller-Brockmann, the rational actualization of the intelligence and imagination of the typographer was an ideological manifestation of innovation. As Mueller-Brockmann states:



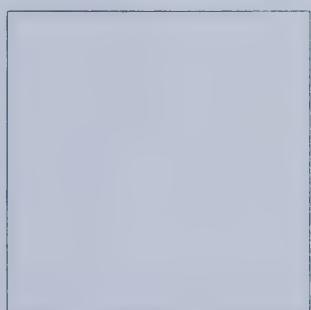
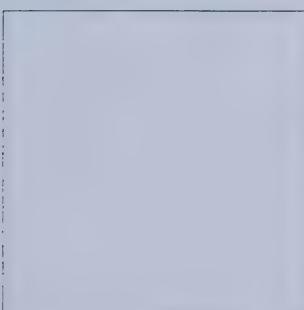
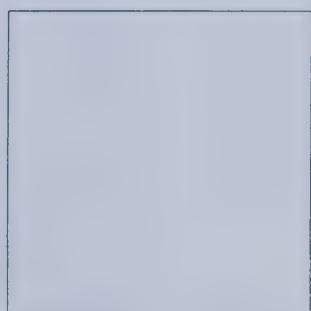
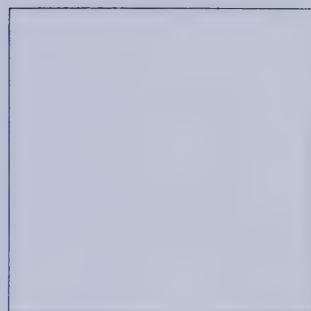
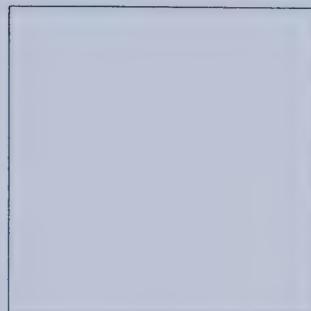
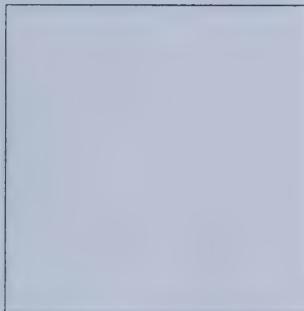
plate 34<sup>99</sup>

<sup>99</sup> Allen Hurlburt, *The Grid* (New York: Van Nostrand Reinhold, 1978), p. 59.

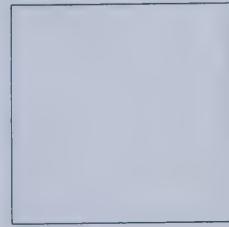
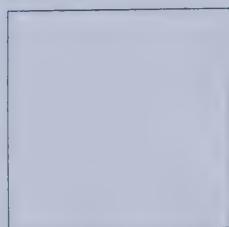
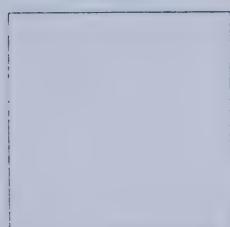
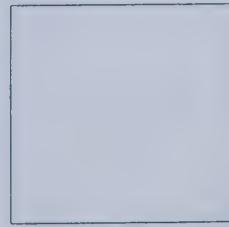
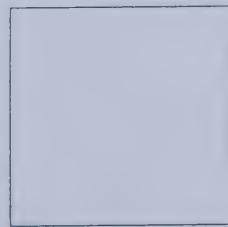
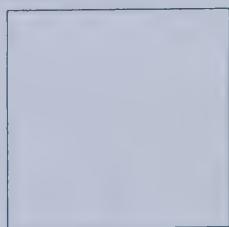
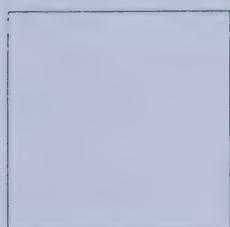
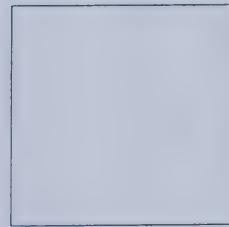
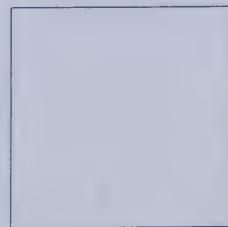
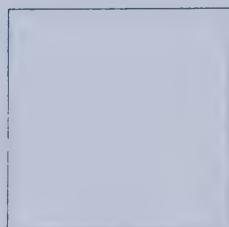
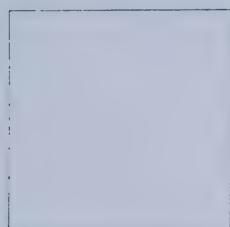
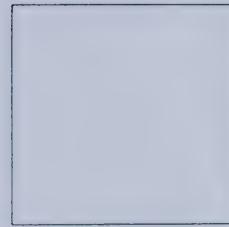
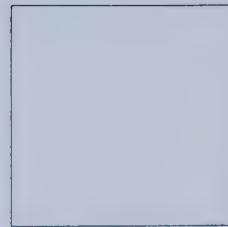
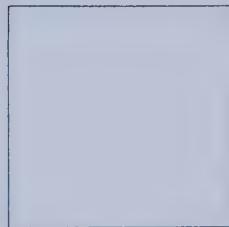
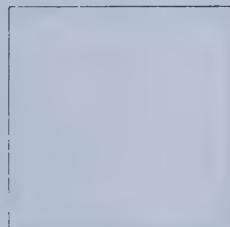




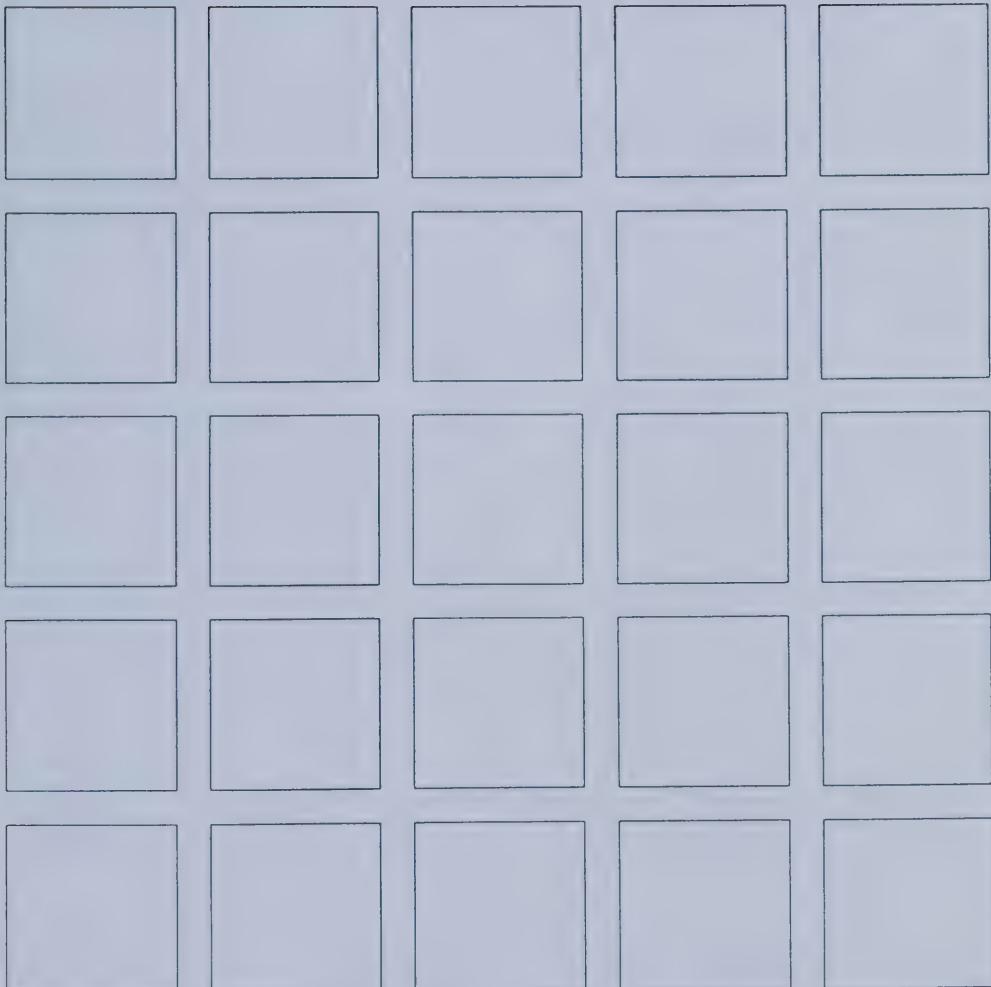




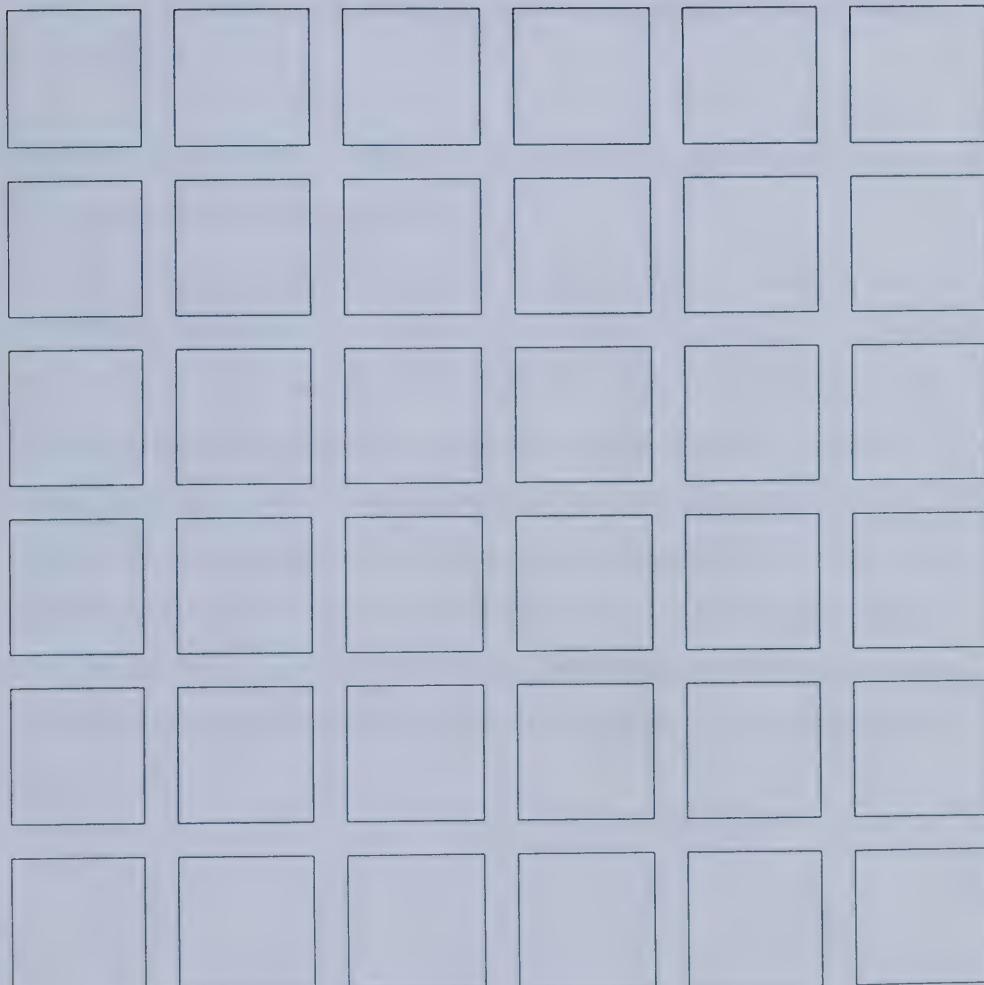














The use of the grid as an ordering system is the expression of a certain mental attitude inasmuch as it shows that the designer conceives his work in terms that are constructive and oriented to the future.

This is the expression of a professional ethos: the designer's work should have the clearly intelligible, objective functional and aesthetic quality of mathematical thinking.

His work should thus be a contribution to general culture and itself form part of it.<sup>106</sup>

The geometric composition of Mueller-Brockmann's typographical methodology is, then, an instance of ideological manifestation.

In his belief that geometry has an ability to determine independently ideological possibilities, Mueller-Brockmann's typographical methodology is conceptually related to the medieval concept of *manifestatio*. However, his method was a deviation in that his ideological objective was the demonstration of the ability of humanity to innovate. This ideal of innovation is what, as well, differentiates Mueller-Brockmann's methodology from the methodologies of the Renaissance humanists and Tschichold. His interest in human dignity was based on the ideal of construction as opposed to the ideal of participation. Thus, Mueller-Brockmann's method of ideological manifestation was a transformation of both the medieval concept of *manifestatio* and the Renaissance ideal of the dignity of humanity.

<sup>106</sup>

Mueller-Brockmann, *Grid Systems in Graphic Design*, p. 10.



## Summary

Although Josef Mueller-Brockmann dismissed the assumption of Renaissance harmony in geometric composition, he maintained a sympathy for its ideal - human dignity. However, his understanding of this dignity also differed from the Renaissance ideal. As opposed to seeing it as a situation in which humanity participated as an equal in a divinely ordered society, Mueller-Brockmann saw it as a situation in which humanity was actively responsible for its own construction. Consistent with this difference was his notion of harmony as a form of construction. This notion of harmony was the basis of his formal ideological motivation.

His typographical method of construction provided and manifested this ideological position by developing a method of geometric composition that was governed by the concept of the programme. By providing a regulative system of constructive possibilities, Mueller-Brockmann's method of geometric composition enabled typographers to create a rational and formal expression of their constructive intelligence and imagination. Specifically, his methodology of typography focussed on an activity of the individual's innovations albeit they were constrained by the limitations imposed by the grid.

As this activity of innovation was determined by the conditions of the grid, Mueller-Brockmann's typographic method focussed on the creative and expressive possibilities of a particular geometric construction. Being so, his methodology demonstrated, albeit in a transformed state, the presence of the concept of *manifestatio*. In Mueller-Brockmann's typographical methodology, the 'means of clarification' was the rigorous application of a grid programme; 'what is being clarified' was his ideological intent: the ability of humans to innovate.



## Conclusion

At the beginning of this thesis it was noted that typography is not merely a mechanical activity. As it was stated by Jeremy Aynsley, typography is an activity which occurs within a social arena and which, therefore, has potential social consequences. This thesis demonstrated these potential consequences by examining how typography, by its capacity to determine rigorous formal activity, intrinsically manifests ideology.

The basis of this demonstration was found in the examination of the conceptual parameters which govern geometric composition. Specifically, it was found, through an examination of the medieval concept of *manifestatio*, how the development of a rigorous geometric method of construction constitutes an instance of ideological manifestation. *Manifestatio* accomplishes this in two ways: first, it posits a conceptual framework built from the relationship of 'the means of clarification' and 'what is being clarified'; secondly, it posits geometry as a legitimate 'means of clarification'. This relationship forms a fundamental basis for a discursive ideological manifestation. Therefore, a typographical method which relies on geometric composition was seen as an instance of ideological activity.

In this study, two typographical methodologies were selected, those articulated by Jan Tschichold and Josef Mueller-Brockmann, and texts pertaining to their methodologies were subjected to analysis. Readings of these texts demonstrated their ideological activity. This was established by first examining why Tschichold and Mueller-Brockmann developed their respective typographical methodologies. It was seen that they desired to reform typography. Both Tschichold and Mueller-Brockmann saw typography as suffering from degenerative influences (primarily from the practices of the 19th century). However, there were differences in the nature of their reform. Tschichold believed in the importance of promoting the maintenance of conventions and traditions. Mueller-Brockmann, however, believed in the importance of promoting dynamic innovation.



The differences between their formal ideological motivations became more evident during the examination of their typographies. Their typographical methodologies concretized a difference in the production of two distinct formal objects. Specifically, this thesis examined the differences of their ideological manifestations as they occurred in their geometric compositions.

What was then noted was how Tschichold's and Mueller-Brockmann's typographical methods utilized different conceptual transformations of the concept of *manifestatio*. For both the humanist movement of the Renaissance was seen as a major factor for this transformation. However, it was shown that there was a significant difference in how Tschichold's and Mueller-Brockmann's methodologies related to the ideals of the humanist movement. In Tschichold's methodology, the ideal of human dignity as manifested in the participation within a universal condition (harmony) was maintained; in Mueller-Brockmann's methodology, the ideal of human dignity was transformed into a recognition of its ability to actively construct its condition.

It was also found that the ideological manifestations as determined by their geometric compositions related directly to their ideological intents. Tschichold's geometric compositions engaged the reader in a form which promoted participation within a harmony determined by established conventions. On the other hand, Mueller-Brockmann's geometric compositions engaged the reader in a form which promoted a harmony determined by innovative construction.

The emphasis of this thesis was the study of the presence of ideology in the actual practice of typography. It attempted to understand theoretical issues from the perspective of an actual site of production. By attempting to do so, this thesis indicated an area which would require further study - the development of the theoretical possibilities which the concept of *manifestatio* (in whatever state) offers to the area of design. The importance of the relationship of 'the means of clarification' and 'what is being clarified' lies



entrenched in the activity of design. Thus an opportunity exists to initiate and develop theoretical inquiries as it pertains directly to design practice.

It is the hope of this thesis that its findings may promote a deeper understanding of typography. Although it is not an exhaustive study, it may perhaps act as or at least initiate the necessary groundwork from which typography may be understood as an ideological projection. The thesis advocates that the understanding of the typographical form must be expanded from a mere distinguishing of stylistic differences. Typographical methodologies should be seen as a legitimate and active realm of intellectual proposition. And, most importantly, this legitimacy and activity should be recognized in the visual manifestations of their typographical methodologies.



## Bibliography

Artz, Fredrick B. *Renaissance Humanism 1300 - 1500*. The Kent University Press, 1966.

Aynsley, Jeremy. "Graphic Design." In *Design History*. Ed. Hazel Conway. New York: Routledge, 1987, pp. 134 -161.

Bouleau, Charles. *The Painter's Secret Geometry*. Trans. Jonathan Griffen. New York: Hacker Art Books, 1980.

Brown, Peter. *The Book of Kells*. London: Thames and Hudson, 1980.

Brunes, Ton. *The Secrets of Ancient Geometry*. 2 vols. Trans. Charles Napier. Copenhagen: Rhodos, 1967.

Eagleton, Terry. *Ideology: An Introduction*. New York: Verso, 1991.

Eco, Umberto. *The Aesthetics of Thomas Aquinas*. Trans. Hugh Bredin. Cambridge, Massachusetts: Harvard University Press, 1988.

Freadman, Richard and Seamus Miller. *Re-Thinking Theory*. Cambridge: Cambridge University Press, 1992.

Gellrich, Jesse M. *The Idea of the Book in the Middle Ages*. Ithaca: Cornell University Press, 1985.

Gerstner, Karl. *Designing Programs*. Trans. D. Q. Stephenson. Teufen, Switzerland: Arthur Niggli, 1989.

Gerstner, Karl. *The Forms of Color*. Cambridge, Massachusetts: The MIT Press, 1986.

Goudy, Fredrick W. *The Alphabet and Elements of Lettering*. New York: Dover Publishing, 1963.

Hurlburt, Allen. *The Grid*. New York: Van Nostrand Reinhold, 1978.

Jeanneret Gris, Charles Edouard. *The Modular*. Trans. Peter de Francia and Anna Bostock. London: Faber and Faber, 1951.



Lachtermann, David Rapport. *The Ethics of Geometry: A Genealogy of Modernity*. New York: Routledge, 1989.

Livingston, Alan and Isabella. *The Thames and Hudson Encyclopedia of Graphic Design*. London: Thames and Hudson, 1992.

Meggs, Philip B. *The History of Graphic Design*. Toronto: Van Nostrand Reinhold, 1983.

Mueller-Brockmann, Josef. *Grid Systems in Graphic Design*. Trans. D. Q. Stephenson. Teufen, Switzerland: Arthur Niggli, 1981.

Mueller-Brockmann, Josef. *A History of Visual Communication*. Trans. D. Q. Stephenson. Teufen, Switzerland: Arthur Niggli, 1971.

Mclean, Ruari. *Jan Tschichold: Typographer*. London: Lund Humphries, 1975.

Reynolds, Linda. "The Legibility of Printed Scientific and Technical Information." In *Information Design*. Ed. Ronald Easterby and Harm Zwaga. Toronto: Johan Wiley and Sons, 1984.

Spencer, Herbert. *The Visible Word*. New York: Hasting House, 1968.

Trinkhaus, Charles. *The Scope of Renaissance Humanism*. Ann Arbor: The University of Michigan Press, 1983.

Tschichold, Jan. *The Form of the Book: Essays on the Morality of Good Design*. Trans. Hajo Hadeler. Vancouver: Hartley & Marks, 1991.

Tschichold, Jan. *Typographer and Type Designer*. Edinburgh: McNaughton & Sinclair, 1982.

Tschichold, Jan. *Treasury of Alphabets and Lettering*. New York: Reinhold, 1966.

Wichmann, Hans. *Armin Hofmann: His Work, Quest and Philosophy*. Boston: Birkhauser, 1989.





